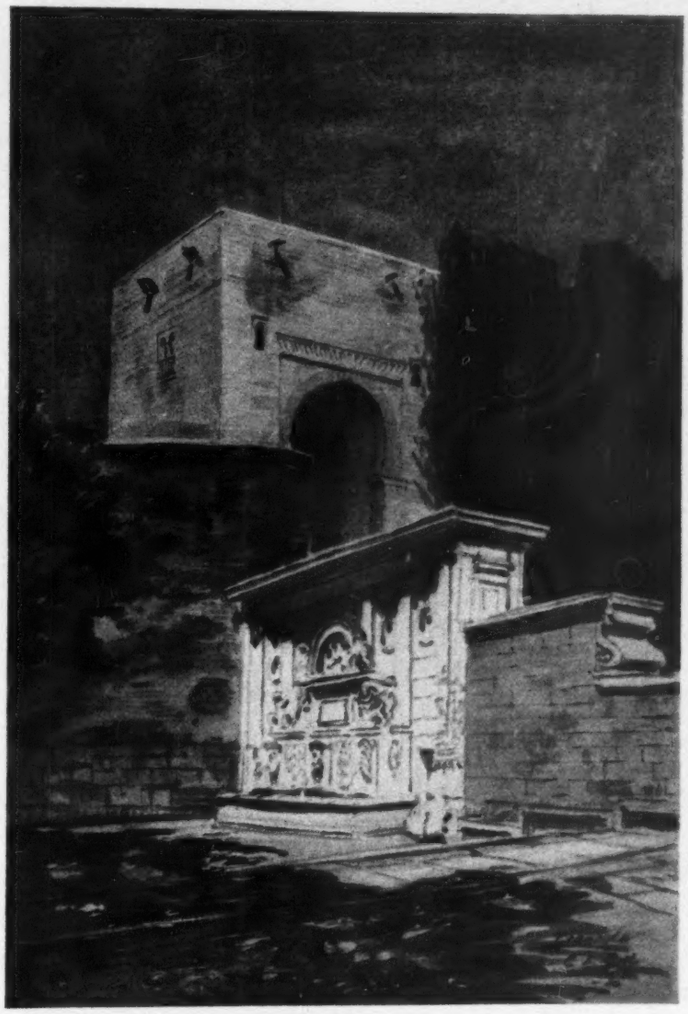
THE BUILDER
A JOURNAL FOR THE ARCHITECT & CONSTRUCTOR

VOL. CXL. JANUARY 16, 1931. No. 4589.



Granada.

From a water-colour drawing by MR. C. LOVETT GILL, F.R.I.B.A.

MEETINGS

FRIDAY, *January* 16.

London Society and Architecture Club. Meeting to forward the preparation of a Plan for London: Alderman Ewart G. Culpin on "Let's get on with the Plan"; Alderman Alfred C. Bossom on "The Slums and the Plan"; and Mr. Mervyn O'Gorman on "Traffic and the Plan." 5 p.m.

SATURDAY, *January* 17.

L.C.C. Central School of Arts and Crafts. Visit to Messrs. Dorman, Long & Co.'s Works, Middlesbrough.

Architectural Association. Mr. F. R. Yerbury on "Continental Architecture in Everyday Life." 3 p.m.

MONDAY, *January* 19.

Royal Institute of British Architects. General Meeting: Presentation of London Architecture Medal, 1929, to Messrs. Adams, Holden & Pearson, and Medals and Prizes, 1931. 8.30 p.m.

TUESDAY, *January* 20.

London Society. Visit to St. Saviour's Church and Institute, 27, Old Oak-road, W.12. 3.15 p.m.

WEDNESDAY, *January* 21.

L.C.C. Central School of Arts and Crafts. Sir Banister Fletcher, P.R.I.B.A., on "Mediæval Period." 6 p.m.

London School of Economics and Political Science. Mr. G. P. Crowden on "Muscular Work and Fatigue." 6 p.m.

Royal Society of Arts. Mr. Martin S. Briggs on "Mosques and Minarets: An Introduction to Persian Architecture." 8.30 p.m.

London Society. Visit to Roland House, 29, Stepney Green, E.1. 3 p.m.

Liverpool Architectural Society. Mr. F. J. Osborn on "Welwyn." 6 p.m.

THURSDAY, *January* 22.

Institution of Structural Engineers. Paper by Professor J. Husband. 6.30 p.m.

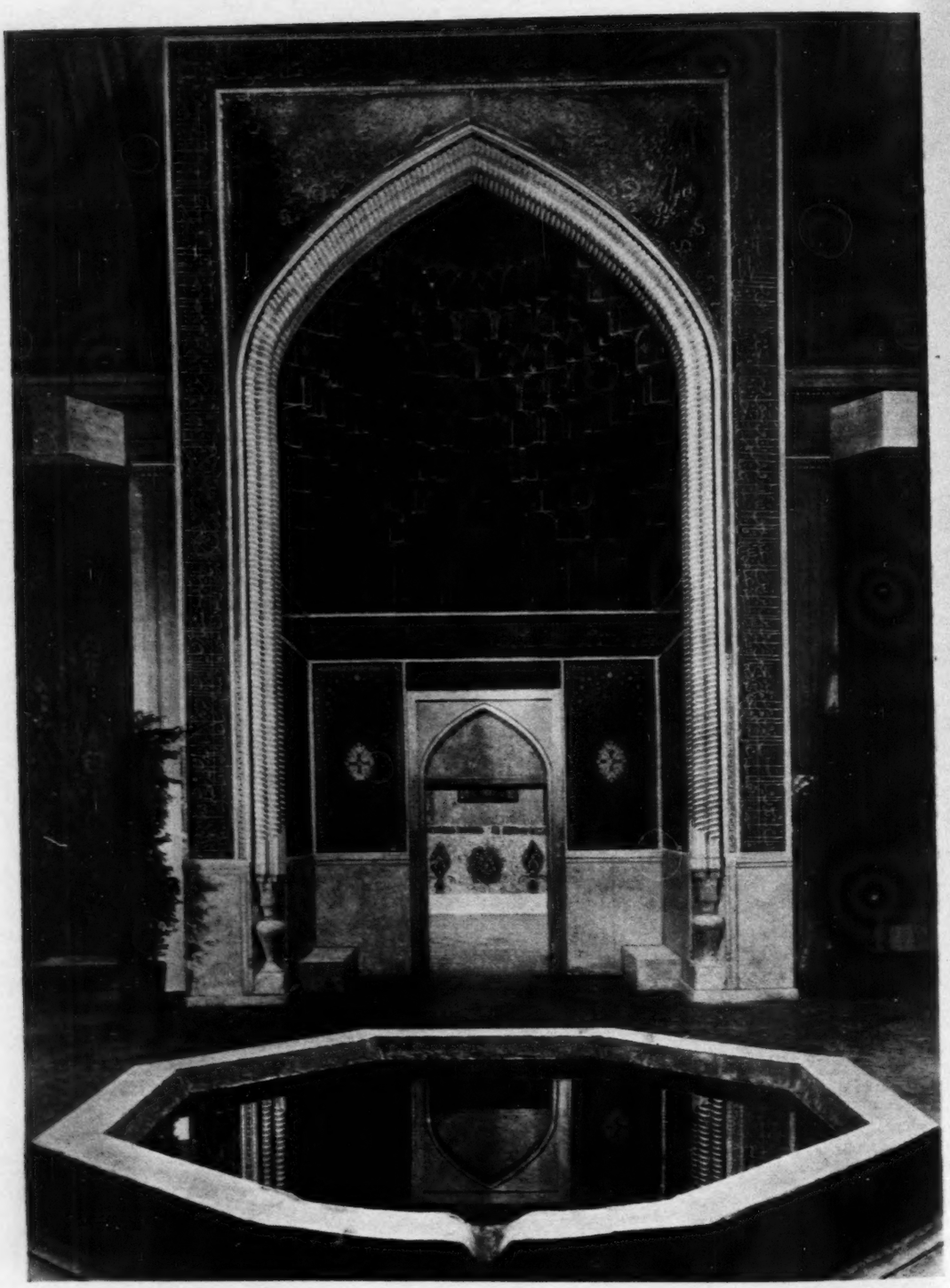
FRIDAY, *January* 23.

Institution of Structural Engineers (*Western Branch*). Mr. M. Morgan on "Fatigue of Metals."

Institution of Structural Engineers (*Lancashire Branch*). Mr. A. E. Pierce on "Structural Engineering in Modern Gasworks." At Manchester. 7 p.m.

Institution of Structural Engineers (*Midland Branch*). Mr. H. M. Hale on "Reinforced Construction at Bournemouth Gas Works." At Birmingham. 6.30 p.m.

West Yorkshire Society of Architects. Mr. Norman Culley on "Egyptian and Western Asiatic Architecture." At the Technical College, Huddersfield. 7.45 p.m.



Model of the Royal Mosque, Isfahan, erected at the Persian Art Exhibition, Burlington House, W.

Mr. Arnold Silcock, F.R.I.B.A., Architect to the Exhibition.

(See page 142.)

CREDIT

THE social system which we have adopted, or which has perhaps, rather adopted itself, is one so complicated that many a detail which has been designed as a boon to society has a way of working out contrary to intentions under some circumstances. The credit system is one of these details which sometimes goes wrong and leads to disaster. We have had patent evidence on a huge scale of such a distortion of purpose in not very distant times; and on a scale far below it such happenings are going on throughout the length and breadth of the land, only forgotten because of the countless instances in which the credit system works as it was designed to work—for the simplifying of our way of living.

But it is a matter of vast importance to all industries, including the building trade, in which we are particularly interested. We are possibly fortunate in working under a system where the benefits of credit operate with little interruption, and the evils of the system are reduced to a minimum. Building is in itself the creation of real values, and it is indeed a bad building which does not answer to this description. It is not, therefore, a difficult matter to finance such a venture as building, because the security offered is more or less indestructible. On the other hand, the buying and selling involved in the creation of building is carried on under as limited a credit system as can be found in any other industry. There are direct incentives to prompt payment, and the builder with anything of a turnover knows that there is a very respectable income to be earned out of cash discounts which are the natural property of the prompt payer. Equally, there is generally short shrift for the builder who is slow to settle with his merchants, and it is all to the good that money should be turned over as it is earned. We are thus spared the sensational crashes which have shaken the foundations of other industries from time to time, and have the satisfaction of feeling that where the builder sticks to his trade, he is not the menace to society which some of the jugglers of finance become.

With few reservations, we may say, with little fear of contradiction, that the builder, especially the small country builder, is more often than not the victim rather than the transgressor of our credit system. Chiefly does this occur in the jobbing line of the country builder's business. Here he has to deal with people with no knowledge of the workings of his business and little imagination to fill in the gaps in their insufficiency of knowledge. They pay just as late as they think they must, or a little later than that if they can, and the jobbing builder knows that should he bring into operation those processes of law which were designed for his protection, he will be looked at askance as having offended against the social code and may suffer a partial boycott. We do not suppose for one minute that the debtors look at the matter from this angle. More often than not, the people who are so acting are suffering similarly in their own business, and waiting for the use of money they have earned, to settle for that which they owe. In some little towns this vicious snowball of credit is so developed that the whole town may be said to be living on the earnings of two years ago. It is difficult to put a check upon this state of affairs once it has got a thorough hold upon a section of society. It is difficult to convince a man that he must pay in 1931 when he knows very well that he himself will not be paid till 1933. It is also difficult to persuade a man to settle his 1931 accounts when he has his 1929 accounts still unsettled. A mass settlement involves a mass sacrifice for the moment which is one of the hardest things to promote.

In contract work under an architect, the builder suffers less severely from the credit system. As the work proceeds he is paid promptly upon the certificates of his architect, and is able to meet promptly the monthly accounts, the discounts from which mean so much to him. But even in such work there are some disabilities. Under his contract a sum equal to five per cent. of the contract amount is retained for a three, six, or twelve month period, and so long after that as the defects which may have appeared during that period shall have remained unremedied. It is rarely that these buildings are inspected promptly upon the expiration of the maintenance period, and rarely that it is convenient for the occupier to admit workmen for repairs at the exact time it is convenient for the builder to send. The result is that a three months period more often than not drags on. To add to this, it is not always that the architect certifies up to the exact five per cent. point. At completion there may be twenty or thirty pounds owing beyond the contract retention allowance, and a builder hesitates to ask for such a small sum to be certified separately, and an architect hesitates to bother his client twice where once will do. The result is that whereas a builder may expect under the terms of the contracts under which he is working to have a certain fixed sum owing at the end of the year, he may have two or three times that amount owing from the two causes. To all intents and purposes, he is permanently that much poorer, because he may expect the same sort of thing next year and following years.

How is he to make this deficiency good? That is the point which affects the interests of all of us, including those people who think there is no need to pay until they must. It is obvious that he must cover these contingencies by allowing a bigger margin over his prime cost than he would have to do if all his debtors paid up promptly. We should do well to remember this and act accordingly. If we were all acting alike, we imagine this sort of thing would level itself down in practice, but, as it is, the good payer pays upon a scale of profit based upon the actions of the bad payers.

We have before us a letter from a reader which suggests that it is not always the builder who is the victim, though we should hesitate to say that such an example as is stated in this letter is typical of the times, or more than an exception. The writer is in a business which often operates as sub-contractor to a main building contract, and says:

"I have recently completed a certain job as sub-contractor to a builder of good standing locally. I have been paid instalments from time to time promptly, but a final balance has been outstanding for some months. When I apply to the general contractor for a settlement, he always replies that he himself has not yet received a settlement, and that the matter must wait until he has received the money. This seems a reasonable attitude, and I have waited patiently. I have since discovered, however, that other firms acting in similar capacity to mine under the same contract are having similar trouble to collect their balance and have been receiving the same reply. On comparing notes we have discovered that the sum total of the sums owing to us exceeds the balance owing to the general contractor by quite a substantial sum. The position thus is that when a settlement day arrives, the general contractor will be actually out of pocket on the settlement. He will have to pay us more than he receives himself, and has, therefore, no incentive to arrive at a settlement, but very much the reverse. I do not suggest that he has deliberately engineered the position, but I am equally sure that he is aware of it, and that the position comes about in many similar cases where we have had to wait a long time for our money. Have, you, Sir, any suggestions to make as to the course we should pursue? We do not want to sue for our accounts, because we are perfectly satisfied with the financial standing of the contractor, and know that we should cease to act for him in future work if we took this course. We are short of ready money, and have to borrow at high interest to carry on."

We are inclined to think that this sort of thing is the product of thinking in round figures. A hundred pounds is outstanding to A, and it seems trivial to settle thirty pounds on account when the balance may be due at any time now. These odd balances have a way of combining at times into situations thoroughly irregular, but maintained in good faith for all that. We would suggest a little more "finicky" exactitude as the real corrective for many of the troubles of credit under which the building industry suffers.

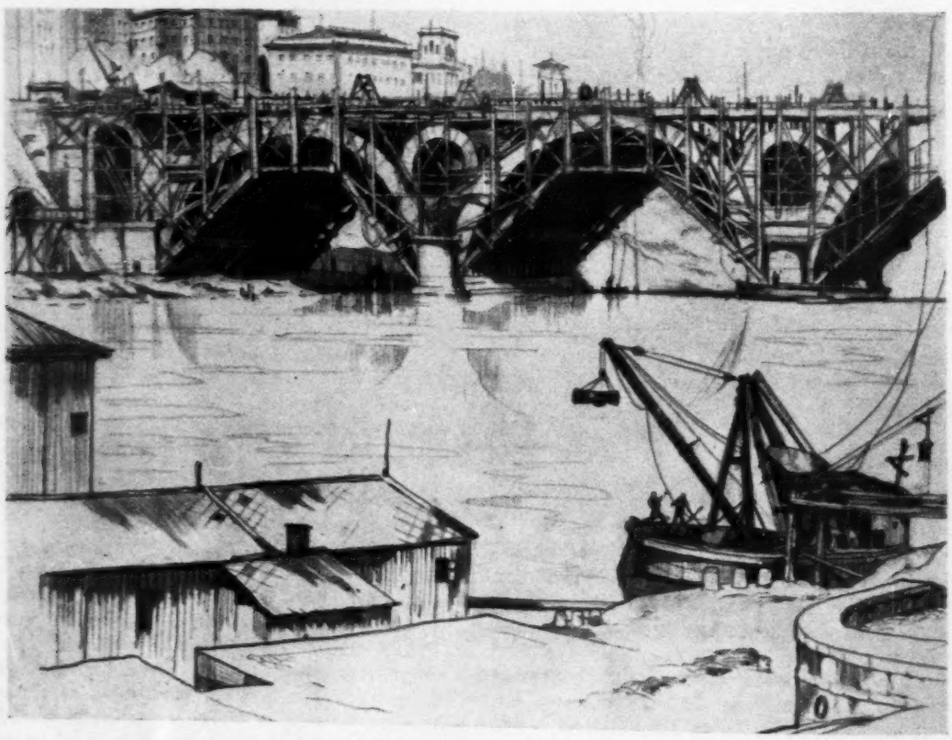
NOTES

The Registration of Architects. We publish elsewhere some letters which we have received in reference to Mr. Herbert Wigglesworth's vigorous letter which we published last week. We may add that in conversation with some of the leading men in the profession we have found much sympathy and agreement with Mr. Wigglesworth's conclusions. It must be admitted that there has been much disappointment with the course of events and consequent apathy, for it is now realised that what is likely to be accomplished after years of effort is widely different from what was desired by so many members of the profession, and proposed in the first Bill. The right to register two words is insignificant, it is thought when it is realised that competition from the unqualified is likely to remain the same; bnt there is a tendency to accept the result with resignation.

Cotswold Craftsmanship. Visitors to the Cotswolds are invariably charmed with the beauty and repose of the domestic architecture typical of the district. The unobtrusive yet appealing "lines" of the buildings in conjunction with the local materials and craftsmanship, make the structures appear part and parcel of the landscape. Not the least important factor giving this effect is brought about by the use of the local stone slates which so soon tone down to lovely grey and weathered colours that make for a restful appearance. Combined with this material one has the tilt of the eaves, the apparent haphazard placing of a dormer window or a steep-pitched gable breaking up the roof and giving it an indefinable charm. These features are not manufactured on mass production lines, but are the heritage of "the local slatter," and would without doubt puzzle anyone but that worthy craftsman to carry out the task. The limestone formation so prevalent in the Cotswolds provides an abundant supply of stone for building, and also the thinner and harder laminated stone for the slates. The quarrying and working of the latter is quite an industry in several localities, especially so adjacent to the typical village, Naunton. This place is situated on the Windrush which here, owing to its meandering ways, has coined for itself the phrase "as crooked as Naunton brook."

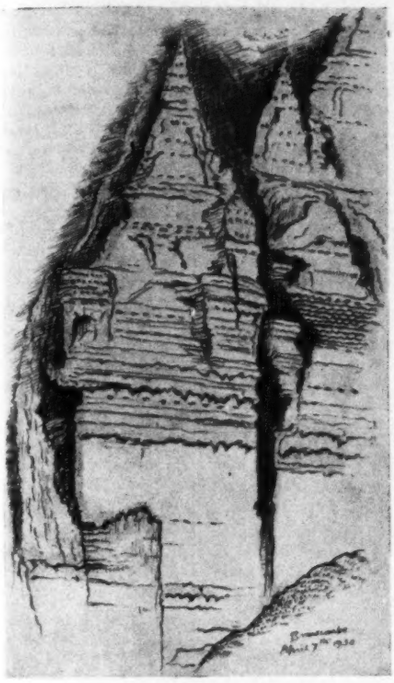
Cotswold Slate Making. The stones for the slate making are dug out during the autumn, being in thin slabs of a random size. Exposure during the winter to frost enables these to be easily split by the slate maker, who dresses them to the size and shape required. Much of their beauty is due to these graduated sizes, or in technical language "diminished courses," those at the bottom being as much as two feet long, while those at the top would only be about six inches. Present-day costs and conditions of labour are ofttimes the excuse for modern methods and materials. It is, however, quite often possible with a dilapidated stone-slated roof to strip it and re-slate at very little extra cost over other methods. This is accomplished by dressing and re-using the old slates that are sound, and providing and working in any new required. The use of crazy paving, now becoming so prevalent, has opened up a market for much of the material that is a by-product of the slate-maker, and this, when properly laid and not over done, adds to the charm of our Cotswold homesteads.

Condition Precedent to Termination of a Lease. A simple point, but one on which it is necessary that leaseholders should be informed, has recently been decided in the case Simons *v.* Associated Furnishers, Limited (Weekly Notes, December 13). Certain premises had been leased by the plaintiff to the defendants for a term of years, but it was provided that "if the lessees shall desire to determine the lease at the expiration of the first five or ten years and shall give the lessor six calendar months' previous notice in writing of such their desire and shall up to the time of such determination pay the rent and perform and observe the covenants and conditions of their part hereinbefore contained then immediately on the expiration of such five or ten years as the case may be the present demise and everything therein contained shall cease and be void, but without prej·dice to the remedies of either party as against the other in respect of any antecedent breach of covenant." Now it was found, as a fact, that at the date the notice expired the premises were in such a condition of repair as to satisfy the covenants in the lease, but the question of law was raised whether the notice had been rendered invalid by reason of the



New Bridge over the Tiber, Rome.

From a Drawing by Mr. Lawrence Wright.



Limestone Cliff formations at Branscombe.
From a Sketch by Mr. Reginald Hallward.
(See page 155.)

fact that at the date the notice was given there then existed breaches of covenant. The Court decided that the clause contained a condition precedent notwithstanding the expression "without prejudice to the remedies of either party," and that that condition had been complied with if breaches of covenant though unremedied at the date of notice had, as in this case, been remedied by the time the notice expired. The use and position of the words "determine" and "determination" in this clause left no room for doubt, and, as the Court held, distinguished this case from other cases where the date the notice was given was indicated as being the occasion to be considered.

The Priory Church, Clerkenwell. As a result of poor attendances, the benefice of the Priory Church of the Order of St. John, in St. John Square, Clerkenwell, has been joined with that of the neighbouring church of St. James's, and the ancient building will from now on become the private chapel of the order. This church, a correspondent informs us, has a long and most interesting history. The Order of the Knights of St. John, which dates from before 1048, after various foundations at Rhodes and Malta, were given a number of acres in Clerkenwell. This land in 1130–1140 they walled round, and built within a great priory, a church and, adjoining the church, a one-storied choir with crypt. The church, which, like those in the Temple, at Maplestead, Cambridge, and Northampton, was round in plan, was burnt down by Wat Tyler in 1381, and the stone carried away to form, according to records, the new mansion on Thameside, of Lord Henry Somerset. The discovery of pieces of the masonry in various buildings near the present St. John's Square, indicates, however, that the people around were accustomed to help themselves generously from the ruins.

The Choir and Crypt. The choir during this time had been put to a variety of uses, one of which, it is recorded, was the storing of the hunting gear of Henry VIII. In 1501, the walls were raised and perpendicular windows added, and the building was used as a place of worship until the end of the seventeenth century, when, having fallen into a state of disrepair, it was taken over by a builder owning land near, Simon Michell, and reconstructed for the use as a parish church of his tenants. The interior was rebuilt and a gallery put round three sides. This was in 1720, and it is said that John and Charles Wesley preached from the three-decker pulpit, of which only the lower tier now remains. The Norman walls of the original single-story choir are yet in a splendid state of repair, and the bases of the columns which supported the roof are to be seen. The crypt is in practically the same condition as the Norman builders left it, except that several doorways have been cut in the fabric, and one that existed has been filled in. In 1170, forty years after the first section had been completed, the crypt was extended eastwards, and the transition from the plain ribs of the vaulting to more decorative and moulded ribs and carved pier-bases shows that even within that short period refining influences were at work in building fashions. Many of the ashlar blocks lining the crypt walls are scored with one of a variety of masons' facing marks.

"The Cock-lane Ghost." A small museum contains various relics that have been found during excavation and cleaning work in and around the church. There are constantly being discovered fragments of Norman and later masonry, etc., which make a most interesting and valuable subject of study for the architectural and archæological student. The crypt of the church once contained the coffin of Fanny Kemp—the notorious Cock-lane ghost—whose spurious activities in sending supernatural messages constituted what must have been one of the earliest attempts to make money out of spiritualism.

The Design of Town Halls. This last twelve months has seen a great number of schemes for new municipal buildings mooted or carried out. Some of these have been planned by directly-appointed architects, others of them will be decided by open competition. The competition columns of this paper have indicated during the last few weeks that several municipal schemes are shortly to be put in hand. An issue that should be of considerable assistance to intending competitors (and to all who are engaged in the work of planning municipal buildings) is the current "Town Halls" issue of *Architecture*. In addition to an able article on the "Planning of the Municipal Building," by Mr. H. V. Lanchester, F.R.I.B.A., the issue contains perspectives, plans and descriptions of nine of the most recently erected or proposed town halls. Mr. Cowles-Voysey's new Bognor Regis offices are illustrated, as are the offices of Coulsdon and Purley, Crook, Chingford, Braintree, Leith, etc.

From a Sketch by Mr. Maurice B. Adams, F.R.I.B.A. (Retired).
(See page 156.)

GENERAL NEWS

Architects' Estates.

Mr. William Gilbee Scott, F.R.I.B.A., of Streatham, S.W., and of Bedford-row, W.C., architect (net personalty £12,482), left £12,784.

Mr. John Duncan Tate, F.R.I.B.A., of Jermyn-street, S.W. (net personalty £2,756), left £2,970.

West Perthshire Bridges.

The Western District Committee of Perthshire has resolved, in connection with the proposed new bridge over the River Allan at Dunblane, to employ a skilled architect to advise them with regard to the plans, and, on the suggestion of General Stirling, it was agreed that the assistance of the Association for the Preservation of Rural Scotland be invoked in order that they might recommend an architect who would be willing to give his guidance and assistance. The proposed bridge is to be of reinforced concrete.

Site Problems in Edinburgh.

On the recommendation of the Lord Provost's Committee, Edinburgh Town Council has decided to make an offer to the Government regarding the acquisition of the block of buildings at the top of the Mound bounded on the east by St. Giles'-street and on the west by Bank-street, or what is known as the "island site," for the erection of the new Sheriff Court House. It is estimated that the outside cost of the site would be about £75,000, and it is proposed to ask the Government for £50,000 towards the purchase.

Presentation of the Melchett Medal.

The Melchett Medal of the Institute of Fuel for the year 1930 (the first to be awarded) will be presented to Dr. Kurt Rümmel, of the Warmestelle, Dusseldorf, by the President (Sir David Milne-Watson, LL.D., D.L.), at the Institution of Civil Engineers, Great George-street, S.W.1, on January 23, at 6.30. The Melchett Medal was instituted by the founder-President, the late Lord Melchett. Following the presentation, Dr. Rümmel will give the Melchett Lecture, which, it is hoped, will also be an annual event. The subject of his lecture will be "The Calculation of the Thermal Characteristics of Regenerators." Immediately following the meeting, Dr. Rümmel will be the guest of the Institute at a dinner to be held at the Connaught Rooms, W.C.2.

The Makers of England.

Sir Banister Fletcher, P.R.I.B.A., on Wednesday evening, began the second term of University Extension Lectures on Mediæval Architecture at the Central School of Arts and Crafts, Southampton-row, W.C.1, by a discourse on the earliest, or pre-mediæval, architecture of England, dealing in turn with the work of the Ancient Britons, the Romans and the Anglo-Saxons. He pointed out the various influences which have moulded our architecture, and showed how the activities and civilisations of these earlier periods played a great part in the conditioning of Norman and Gothic architecture.

The Roman occupation, said the lecturer, changed the face of England. The Romans made roads through it, such as Watling-street and Fosse-way; they built walls against invasion, such as those of Hadrian and Antonius; founded walled cities, such as York and London; built thermæ or baths, such as those at Bath; amphitheatres, such as Caerleon and Dorchester; villas with central heating, as at Chedworth, and lighthouses, like the Pharos at Dover. The arrival of Christianity was evidenced later, not only in the conversion of kings and their subjects, but in the building of Anglo-Saxon churches and in bishoprics. Religious zeal culminated in Edward the Confessor, at the dawn of the Norman period.

THE ROYAL MOSQUE, ISFAHAN

Visitors to the Exhibition of Persian Art will notice as a most interesting exhibit the model of the portal of the Royal Mosque, Isfahan, which has been erected in one of the rooms. The original of this mosque (to give it its correct title, the Masjid-I-Shah) was built by the architect Ali Akbar for Shah Abbas the Great in 1612-13. The entire surface of the original is covered with mosaic tiles, and the vases and lower panels are of a mellow, ivory-coloured alabaster. The doors are covered with heavy gold and silver plates richly embossed. The height of the portal is about 100 ft.

The model in Burlington House is one-third the height of the original, and its erection was planned and directed by Mr. Arnold Silcock, F.R.I.B.A., architect to the Exhibition. The task throughout was not easy, as, in the absence of a section, the working drawings for the model had to be got out from only a plan and some photographs. In this the architect acknowledges the great help rendered by Mr. Oatley. The model was constructed of oak strutting faced with sheet insulative material and the stalactite vaulting in fibrous plaster tied to the top and sides with struts. The vaulting and the majority of the panels are covered with canvases painted in Persia and by Persian artists to resemble mosaic glazed tilework, but the large lower panels (the canvases for which met with accident) were painted with very great skill and realism by the Misses Brace and Pilsbury (of Dunsmore Tiles, 2, Hillsleigh-road, W.8). The completed model is illustrated on page 138.

The pool which lies in front of the Royal Mosque has been most realistically reconstructed. The surround has been built-up with "Essex" board, "Durotex" being used to give the effect of old stone. Black glass, made by the London Sand Blast Co., takes the place of water and very successfully. This pool was constructed at short notice by Messrs. Pate, Ltd., of Highgate, who also carried out much other work at the Exhibition, including the surround to the Carpet of the Twelve Prophets, the decoration of two smaller portals, various showcases and the circular Persian signs in the Central Hall. For the main structure of the portal and the putting-up of the fibrous plaster the Bath Cabinet Makers' Company were responsible; the "Celotex" board used was supplied by Merchant Trading Co., Ltd.; various painting was executed by Messrs. Hamptons; alabaster work on the portal plaster was done by Joseph Harker and Sons; fine painting on panels, by Lechertier Barbe; priming on the plaster work, Fairfield Paint Co.; and white oil varnish, used to obtain a faience effect, by Manders.

INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS

Sir Edwin Lutyens, who was elected President of the Incorporated Association of Architects and Surveyors on Saturday last, was informed of his election by wireless to the P. and O. liner "Mantua," in which he is travelling on his annual visit to India in connection with his supervision of his work in New Delhi.

Major R. I. Tasker, Chairman of the London County Council and a past president of the Association, was elected Chairman of Council of the Association, and Sir Frank Dyson, the Astronomer Royal, was elected an honorary member. The Duke of Marlborough was elected a vice-president.

In a letter Sir Edwin Lutyens said :—"The inclusion of architects and surveyors in one society has always seemed to me wholesome and correct. That is why I like our Incorporated Association. The combination gives a wider view and influence to the possibilities of creative art. It was under the designation of surveyor that Sir Christopher Wren entered the profession in which architect and surveyor are equal contributors to success; success, that is, in right of building in the public interest. It is because our Association can so well enhance this success that I should be happy to become your President. Day by day the stature of England's beauty grows smaller. It is not by any Parliamentary authority that taste and discretion can be fostered, that insight into essential needs can be given, that imagination and high accomplishment can be assured. But it is to these ends that the Incorporated Association of Architects and Surveyors is dedicated; and these ends, with your help, it would be my humble duty as President to promote."

COMPETITION NEWS

A Small House Prize.

The Oxfordshire Society of Architects, having in view the effect on the beauty of the countryside by the erection of small houses and bungalows, offers a prize for the best designed small house or bungalow, erected singly or in a block, built and completed within the county boundaries of Oxfordshire during the period from January 1, 1931, to June 1, 1932. In awarding the prize, the judges will attach importance to the general shapeliness of the building, to the simplicity, restraint and good proportions of its details, and particularly to its harmonious relation to the countryside. The prize is offered to any person or persons building or causing to be built houses for their own occupation, for sale or to let, but is restricted to such houses having a total floor area not greater than approximately 1,200 superficial feet, measured outside the walls. (This means a bungalow not larger than about 60 ft. by 20 ft., or a two-storied house about 30 ft. by 20 ft., in all cases exclusive of garage or outhouses.) No house shall be considered by the jury which in their opinion could not have been built for 1s. 3d. per foot cube. The prize shall be a sum of £20 to the person commissioning the house; in the case of a builder building to sell, the builder; a certificate to the actual designer; a tablet to be affixed to the building. The award will be made by a jury of five persons. Persons desiring houses to be considered by the jury must fill in a form of nomination obtainable from the Hon. Sec., Oxfordshire Society of Architects, 47, Broad-street, Oxford.

Proposed Municipal Bank, Birmingham.

The Committee of Management of the Birmingham Municipal Bank invite architects practising in the British Isles to submit designs in competition for a central municipal bank and head offices to be erected on a site in Broad-street, Birmingham. Premiums of £400, £300 and £150 will be awarded. Sir Reginald Blomfield, Litt.D., R.A., has been appointed assessor. Conditions of the competition, plan of the site and information will be forwarded to intending competitors on application to Mr. Herbert H. Humphries, M.Inst.C.E., City Engineer and Surveyor, The Council House, Birmingham. The application must be accompanied by a deposit of £3 3s. Designs, in sealed packages, endorsed "Central Municipal Bank," must be delivered to the City Engineer and Surveyor not later than April 18.

Isolation Hospital, Pinley, Coventry.

We are informed that the secretary of the A.A.S.T.A. has made representations to the promoters of this competition with a view to its being thrown open to all architects and not restricted to those established in private practice, as the first announcement indicated, and we understand that it is now open to all architects.

CORRESPONDENCE

Architectural Training.

SIR,—It is generally recognised that the present accepted method of architectural training through various schools of architecture lacks certain advantages to the student afforded by the older system of articled pupilage which it has superseded, but the extent to which a purely technically trained architect may be handicapped in his practice can be fully realised only by those who have had this experience. It is the object of this letter to analyse the causes of any failure there may be in the present system to produce the results desired, and to suggest some means by which happier results might be achieved.

In our architectural schools a student is very properly taught to draw both architecturally and freehand, he studies such history as will be helpful to him in understanding and appreciating the buildings of the past, and he is well grounded in specialised subjects such as town planning, steel construction, hygiene, etc., but in the matter of construction and design which may be termed his bread and cheese, he is but poorly fed.

He may be instructed to produce within a few hours a sketch design for a public library upon the working drawings of which his time will be expended during the following weeks. On further consideration of his design he recognises it as bad, but his penalty for departing from it is loss of marks. It is claimed for this procedure that it develops quickness of thought; this may be so, but it may also result in a half-hearted endeavour to camouflage with an attractive drawing of its main elevation the shortcomings of a design which should be scrapped.

His elevation completed, he will be set to work on drawings of its construction, in the course of which he may discover that his building will not stand up, but as he knows that it will never be required to do so, he is tempted to confine his details to such as may be copied faithfully from his text books. In short, his aim is to produce not buildings, but drawings of greater merit than those of his fellow-students, and as he is unhampered by any necessity for economy, and need fear no criticism other than that of his instructors, his temptation is to satisfy his critics rather than himself.

On taking an active part in practice, he finds that he has not learned the need for accuracy—a habit not readily acquired after many years of neglect—and it is a revelation to him to discover that the sole purpose of a working drawing is the imparting of instructions necessary to the builder. He is surprised to find that he must learn to construct as he designs, and to visualise his designs as solid structures seen in perspective, and not as flat façades enriched with purple shadows against a stippled background. He finds that there are many materials and methods of construction of which he has never heard, and that it is incumbent upon him to gauge their respective merits, and employ only such as are best suited to the needs and means of his clients.

All this is uphill work, but perhaps his hardest task is to regain his self-reliance and to free himself from the stereotyped conventions and pedantry which are inseparable from mass education, and which, however beneficial they may be in the ordinary conduct of life, are inimical to the expression of individuality in architecture.

An alternative method of equipping a youth for the practice of architecture which commends itself to the writer is that on leaving school, preferably at an early age, he should be apprenticed to a builder, for a period sufficient for him to enable him to work with his hands at the principal trades, after which a couple of years at either Oxford or Cambridge, concentrating upon architecture, followed by two years as articled pupil to an architect for whose work he has a preference.

This is perhaps a counsel of perfection, and many will be unwilling or unable to follow it, but to all who are responsible for the architectural training of our youths the writer would plead for:—

1. Less concentration upon the beautifying of scale drawings.
2. The illustration of students' designs by perspective drawings and models.
3. Competitive designs for small buildings actually to be built.
4. Manual as well as brain work.

LIONEL F. R. COOTE, A.R.I.B.A.
14, Great James-street, W.C.1.

Building Research Station Questions and Answers.

SIR,—The questions and answers from the Building Research Station quoted in your issue of December 19, 1930, are of great interest to all concerned with structural design and maintenance. The writer ventures to put forward, however, certain points which have not been discussed by the Building Research Station.

In the case of the treatment of concrete roofs with mastic asphalt, cracking may be divided under two heads—initial cracks due to the development of setting cracks in the underlying concrete, and cracks which appear after the concrete has definitely set. The former are generally of greater dimensions than the latter, and can be avoided by giving plenty of time for setting, or, when this is impossible, they must be allowed to take their course, and the asphalt should then be repaired; they will not recur, and fall into an entirely different category from the latter. The cracks which develop as the building ages have their origin largely in vibration and flexure, and to meet these difficulties it is necessary to apply a material which retains its plasticity over a wide temperature range; it is in this respect that many asphalt treatments fail. A contributory cause is the thickness usually applied, for it is obvious that for a given radius of curvature greater tensile stresses will be produced in thick than in thin layers, and so far as vibration is concerned, a material adhering to concrete will be less affected in the layers nearest the concrete, which are stiffened by this adhesion. Thick layers are used because the low bitumen content of the asphalt demands a thick layer for impermeability. A sounder solution is to reduce the thickness and secure impermeability by using a higher bitumen content. Again, with a mastic applied hot, adhesion takes place in the lower layers while the upper layers are still hot, and as cooling proceeds tensile stresses tend to develop in the upper layers. This is obviated to some extent by two-coat work as regards initial stresses, but the same action occurs owing to subsequent atmospheric variations—the upper layers cool off while the lower layers are still warm.

Everything indicates the advisabilty of an application of less thickness, applied cold in the form of an emulsion, and having a greater bitumen content to ensure impermeability. The limit to this lies in the fact that a straight bitumen has a low plasticity range, and is either too brittle at low temperatures or too soft at sun temperatures. This notwithstanding, it is possible to secure the right material, retaining plasticity over a wide range and giving impermeability with a thin coating. The plastic material need not necessarily be soft, but it must not crack readily under vibration or tensile stresses as does an asphalt of too low bitumen content, or a straight bitumen at low temperatures. Thin coatings have the additional advantage that they are more economical, and they have not that tendency to creep which is so noticeable in thick coat work.

Turning to the remedy for spalling plaster mentioned by the Building Research Station, the writer suggests that a sounder and cheaper treatment is to strip the plaster, brush down the surface of the wall, prime and paint the brickwork with bitumen applied cold in emulsion form, and then plaster. The brick wall will be rendered waterproof by the bitumen, and any further efflorescence will cease, while the plaster will adhere firmly to the bitumen. Here again a straight bitumen must not be used owing to its low plasticity range, but the writer knows from personal experience that satisfactory results can be obtained.

Beckenham. A. P. MORRIS.

Beauty and Ugliness.

SIR,—Mr. A. E. Beresford agrees with Mr. E. A. Stewart that "Beauty can be obtained just as easily as ugliness, and is no more expensive." If this is correct, why is it that beauty has always had an enhanced value and seems so difficult to secure? Beauty in building is not a matter of personal taste, for, if so, there would be no subject for discussion. It is a matter of fact.

I am well aware that the charming old houses such as we find at Weldon, Weekly, Higham Ferrars, Stamford, Henham, and similar places were not "designed by outstanding, brilliant geniuses," for I have sketched, measured, and photographed many of them. To build cottages to-day of the same quality would be neither cheap nor easy, for their chief quality is solidity and sound craftsmanship. A house with well-built 2 ft. stone walls has a quality independent of mere "trimmings" which could never be achieved in one built of two 4½ in. hollow brick walls, no matter how subtle the proportions, composition, fenestration and texture might be.

Easy transport has killed local tradition in most cases, and we cannot ignore the fact that education and individual intellectualism have made it unlikely that local traditions will ever again be established. I remember seing some houses by Mr. C. F. A. Voysey, over thirty years ago, in the Haslemere-Hindhead district which impressed me much with the possibilities of buildings without trimmings. They had no mouldings or decorative features in the accepted sense, but the quality of workmanship and finishings gave them a distinction which I have not seen equalled or surpassed in modern work where detail is eliminated. I doubt, however, if they were inexpensive houses. The question is not one of detail or no detail in the architectural sense, but one of solidity and quality of material and workmanship. These can never be cheap or easy to obtain either to-day or in any future age.

Unless beauty is attained through quality of material and craftsmanship, which are costly commodities, it is not likely to be attained through mere so-called functional structure and the elimination of traditional detail. Something has got to take the place of tradition, and it is difficult to see what can do so apart from education and the right use of emotional expression.

A trained man costs more than a half-trained or untrained man; therefore beauty must cost more and be more difficult to secure. A commercial proposition such as housing has become is entirely antagonistic to the ideal in every possible way. To go further would lead us into a mere repetition of threadbare platitudes.

WILLIAM DAVIDSON

Regional or National Planning?

SIR,—With reference to your leader of December 26, 1930, under the above heading, may I suggest that, in lieu of the terms "Town Planning, Regional Planning and National Planning," the terms "Civic Design, Regional Design and National Design" be used?

O. NEWBOLD.

New Keeper of Coins, British Museum.

At a meeting of the Trustees of the British Museum on January 10 it was announced that Mr. John Allan had been appointed Keeper of the Department of Coins and Medals in succession to Dr. G. F. Hill, now Director of the Museum.

"THE BUILDER" DEBATE

XXXV.—REGISTRATION.

SIR,—"Negative" has made full use of the many loopholes which I purposely left to draw his fire; for a question which rests on such an eminence as that on which the Registration question stands is assailable from so many sides that it is as well to know which of the batteries are to speak and be silenced.

From a purely academic point of view, the structure of a Registration Bill for such a profession as ours should provide that none but those who have passed through a certain qualifying test should be permitted to practise in that profession. That would be a very complete and watertight scheme, which would doubtless satisfy a large proportion of the qualified professors. But it is such a politically impossible scheme that I presume that neither "Negative" nor myself has that aspect of possibility in our minds as we argue upon the question.

We will assume, therefore, that we should both be content with a register which contained the names of men who had become qualified by examination, or similar equal test, and none other. Our ground of dispute, therefore, remains whether it is worth while having a register on which will be recorded the names of other overlapping professions and businesses, in which a partial or complete claim to architectural practice now exists. My case is that this step is worth while, while "Negative" argues that it is not.

Before beginning, therefore, a positive defence of the Registration Bill, I would ask "Negative," and those who agree with his case, what would have been the alternative to the granting of concessions which have been made in response to pressure from outside bodies? I think there is no doubt whatever that the Bill would have been dropped, and dropped with a very big thud, which the public would have recognised as the final defeat of a great profession in a campaign extending over a great number of years. The defeat would have meant, without question, that Registration, as a goal for the architectural profession, was wiped right out for all time. Was "Negative" prepared to accept such a situation? Was he content to destroy for all time the fruits of the energies of the most active men of his and a preceding generation? I very much doubt it, and might almost venture to leave my defence to stand on this point alone. But as this is neither complete debating, nor acting with justice to the Bill, I must adopt the more positive lines upon which the rightness of a case must be justified.

The opponents of a Bill (and who has an easier task than the opposition, in its irresponsibility?) make a great deal of what we fail to get in this Bill; in fact, their case professes to see nothing in it of advantage to the profession. A great deal is made of the representation secured by surveyors, estate agents, and civil engineers, and very little of the overwhelming representation which has been secured by the senior organised body of qualified architects—the R.I.B.A. Do not these people see that by these terms of reference the R.I.B.A. can practically dictate the future policy governing the control of the register, and that it is impossible to conceive that once the initial register has been compiled there will not be some ordinance established whereby the future of the register will demand necessary qualifications from those who claim to be included?

Let us get right out of the trade union—even out of the professional—atmosphere and examine the case for excluding from the register people like estate agents—to take the most disliked addition. "Negative" considers that those people should be definitely denied from assuming the full statutory title of "Registered Architect." From our point of view, we can show on æsthetic grounds that they are unlikely to be qualified according to the highest standards of architectural practice; but from the point of view of these men, they claim, many of them, that they have practised architecture according to their lights, and according to the lights of a large section of the community; that they have done so in good faith for a great number of years; and that some of them have practised in this way with excellent results to all parties. That being so, they resent being separated from other architects by an invidious mark. We know, of course, that the chances of their practising architecture with a high degree of efficiency are remote; but to neither them nor the public is this point at all clear, or easily arguable from any grounds which exclude the æsthetic.

It would be almost impossible to carry a resolution among any but the professional classes and their sympathisers for marking these potentially honest and capable men down to a depreciated currency. But there is every chance of convincing the public and the overlapping professions that future entries into the registered profession shall be accepted only after they have passed certain standard tests for efficiency. The man in the street will not swallow anything which may make it harder for a section of his fellows to follow the calling they have chosen, but he will willingly watch a general raising of standards for the future; in fact, there are all the signs that he will demand a higher standard of skill from the architects of the future. The whole trend of legislation affecting building and town-planning points that way.

No defender of the Bill who is in his senses will claim that it brings us straight out of Bedlam into Utopia. No sudden miracle is claimed for it. All that is claimed is that by devoted and constant effort the promoters of the Bill have erected the best framework possible at the moment, upon which to erect in course of time a more efficient generation of architects, a better protected profession, and a better protected public.

The Bill is a sieve upon which a heterogeneous collection of gauged stuff has been dumped. It has but to be shaken for the small stuff to fall through on the heap, leaving an even grade of substantial material. To come and look at the heap before the sieve has functioned, and say that the sieve is no good, shows no more than a woeful display of ignorance.

I have not attempted to answer point by point the superficial and obvious case which "Negative" has put up, but I think the foregoing survey is sufficient to meet every material point he has made; and I beg of him to reconsider his position and go forward shoulder to shoulder with his colleagues, with an eye on the future, which bids fair to be so much better a time than to-day.

If he has looked for some immediate material benefit out of this Bill, he is certainly doomed to disappointment. If he has made up his mind in advance that he is unprepared to make any personal sacrifice for the moment, he must certainly quarrel with this Bill. But if he hopes that in as near a future time as possible there shall be machinery for checking the present irresponsible drift into the world of architecture, then he must surely grasp this Bill as the best structure which has been politically possible, and recognise that wiser heads than his have been devoted to this cause and have seen more than an empty husk in the much-amended document which has survived the fire of Parliamentary debate and committee work.

POSITIVE.

*** Correspondence upon this subject is invited.—Ed.

The late Robert Hamilton.

The death has taken place in Edinburgh of Mr. Robert Hamilton, burgh surveyor of Jedburgh. Mr. Hamilton, who was a Lanark man, obtained his appointment as burgh surveyor and sanitary inspector at Jedburgh six months ago. He was 26 years of age, and in the short period he had been in Jedburgh had gained the high esteem of all who knew him. He was regarded as a most efficient official.

THE R.I.B.A. AND REGISTRATION

SIR,—Mr. A. Seymour Reeves's explanation that Mr. L. A. F. Ireland is a member of the Registration Committee of the R.I.B.A. does not confute my statement that Mr. Ireland "is ignorant of the provisions of the Bill." It recalls the statement of a witness in a notorious murder case of long ago, who said: "I knew he was a gentleman, because he drove a gig." (What logicians call a *non sequitur*.)

Mr. Ireland's knowledge of the Bill may be profound. My opinion of it was based on certain material vouchsafed for publication in *The Builder* and signed by him, not on what knowledge he may possess in secret.

G. B. J. ATHOL,
Secretary, Incorporated Association of Architects and Surveyors.

SIR,—I am sure Mr. Wigglesworth's letter published by you on the 9th instant, and also the crushing reply of "Negative" to "Positive," must have been read with great pleasure by a large number of Associates and other qualified members of the Institute.

For several years objection has been taken by the R.I.B.A. to unqualified borough surveyors and engineers carrying out architectural work which ought to be given to architects in private practice; the result has been most satisfactory, and we are grateful to the R.I.B.A. But under the Registration Bill all those unqualified men could become registered architects, and the loss of work to architects all over the country would be considerable. The Institute cannot "blow hot and cold"; it cannot class a man as a registered architect and then write to any public authority and object to his carrying out architectural work.

In self-interest as well as for the good of architecture, all architects in private practice who do work for a public authority should oppose the Bill.

COUNTRY MEMBER.

SIR,—On the assumption that Mr. Wigglesworth's criticisms are sound—and I can see no reason to doubt them—it would be interesting to know how the comments of the President of the R.I.B.A. at Exeter on November 27 (see your issue for December 12), and the statements of Mr. J. T. Halliday at Manchester on November 12 (see your issue for November 21), can be supported. On November 27 Sir Banister Fletcher said: "Within a few months they would be able to say truthfully that if there was a practising architect not within the ranks of the Institute he was not qualified in the highest sense. This would mean the protection of the public and consequently the confidence of the public."

Mr. Halliday said: "In future the public would be able to distinguish between incompetent and unqualified persons and those who had qualified themselves to the extent required to earn a place on the register, and it would then rest largely upon the intelligence of the general public whether they continued to employ men without taste or training."

Does anyone really believe that within a few months we shall be able to say "truthfully" that the public will be protected and confidence created by the inclusion of unqualified architects in the ranks of the Institute, and that the bestowal of the title "Registered Architect" will save it from those who have neither taste nor training?

A SCEPTIC.

Mr. John Todd's Estate.

Mr. John Todd, of Derby House, 28, Mill Mead, Staines, surveyor of the City of London under the London Building Act, who served a "Dangerous Structure" notice on the Dean and Chapter of St. Paul's, calling upon them to make the Cathedral safe (net personalty £2,661), left £4,934.

THE ARCHITECTURE OF THE THEATRE IN AMERICA.—II

By E. WAMSLEY-LEWIS, A.R.I.B.A.

CONSTRUCTION.

Exit stairs are required to be fireproof. They are usually constructed on a metal frame, the stairs being built up in the workshop, and are complete and ready for fixing when delivered to the job. The treads and landings are supported for the entire length and width by a solid steel plate at least one-eighth of an inch thick, which is usually covered in slate, marble, stone or composition.

The employment of wood seems to be limited as far as possible in American theatres. Doors are usually of metal or wood, covered with metal sheeting. Screens are usually of pressed metal and glass. The floors of auditoriums have no boarding under the carpet, the carpet being laid directly upon the concrete. Skylights have sashes and frames of metal. Wood skirtings and architraves are not used. Shelving, tables and cupboards are of metal.

The roof and galleries and supports for the same are required to be built of iron and steel and fireproof materials. All partitions, walls and doors behind the proscenium, and in those parts of the building used by the public, are required to be of fireproof material. The rigging loft and fly-galleries, including the pin-rails, are made of iron or steel; no wood boards are permitted. In New York no rooms whatsoever are permitted above the stage. Only a roof garden, art gallery, or rooms for similar purposes may be permitted over the auditorium and public portions of a theatre, provided the roof and supports are of iron or steel and fireproof materials, and in the floor of the rooms above no wood shall be used. In Chicago, Washington, and Philadelphia, even an hotel or office building may be built over the auditorium, whilst in Boston one may build even over the stage.

Much money is saved in American theatres by the use of lighter materials. Gypsum blocks are often used for roofing; they are very light and gypsum is a non-conductor of heat. In New York cinder concrete slabs are generally used.

The steel framing of balconies in America has been more advanced than that found in the rest of the world. The usual method is to carry a large truss right across the building. Money can be saved when the cross-over truss is reduced in length by sometimes as much as one-half the span, the ends being carried on cross trusses, usually triangular in shape, supported at the back and carried forward to other supports on the side walls. The rakers are always run parallel, for radial framing is complicated in jointing and consequently uneconomical. The rakers are placed 8 ft. apart for cinder concrete slabs and up to 12 ft. apart when stone concrete is used.

The use of cinder concrete in the balcony is of even greater advantage than in the roof It seems strange that in England its use for this purpose is prohibited. It is much lighter than the aggregate we use, and its fireproof qualities are greater. Clean steam boiler anthracite cinders are used. The slabs are four inches thick, three inches concrete and one inch cement finish, with a reinforcement of triangular wire mesh. The risers are two inches thick. Such floors weigh approximately 165 lb. per square foot.

In America, preliminary sketch plans are made of the scheme, care being taken to adhere in the planning to the building code of the locality. These are taken to the authorities concerned, who make their criticism on the spot. The working drawings are then made, a set of which is sent, with the detailed specifications, to the superintendent of buildings, who approves the proposed work in the course of a few days at most. Estimates for steel structural work and orders for the demolition of the existing property on the site are then sent out at the same time. For a building 100 ft. by 1,000 ft. roughly, the first stanchions would be set in position in thirty days from the acceptance of the tender. A schedule of building operations is got out with dates of commencement and finish on the job of the work of all trades, and this is rigorously adhered to, for heavy penalties are imposed on any sub-contractor holding up the job.

After the steel framing is erected, the services, conduits, pipes, etc., are laid directly, so that there is no cutting away of concrete or other materials at a later date, an operation wasteful of time, labour, and material. The floors are then laid, giving space for the materials to be deposited, and another great factor is that these materials are laid to hand exactly where they are wanted. The stairways are put in as soon as possible, and themselves serve as access to the various floors for the operatives. The steel staircases, permissible and usual in America, save a very considerable amount of time, for they are made in the workshops, and have only to be fixed into position when the steel frame is ready to take them. Temporary wooden chutes are erected down one or more external walls with openings at a window on each floor. All rubbish is thrown down these into wagons waiting to receive it, and directly carted away from the job. This is a very noisy contrivance, sure to keep the neighbourhood awake, but it materially assists building operations, as any lumber can immediately be got rid of, and so working space is kept free and cleaner. In England, waste products are often moved three times or more from place to place before finally being carted away.

In England, unfortunately, most theatre managers continue to put much faith in the poster as a means of attracting patronage to their house. Our theatres, in consequence, are covered, either partly or entirely, with huge and nearly always vulgar posters and illuminated signs. The fact that any architecture at all is permitted and paid for by the owners shows the doubt that exists, for it is entirely covered up, or at least its meaning vanishes as soon as the posters which hide it are put up. The collection of architectural forms and ornament spread over the walls behind the posters of London must represent a colossal fortune. Surely, if these posters are really necessary, the walling behind them should be plain.

We in England are always led to suppose that Broadway is one of the most vulgar places in the world. It did not seem to me to be nearly so terrible as many of our own streets, for there was a certain coherence in Broadway advertisements which is entirely lacking in such streets as the Strand of to-day. In fact, one of the first remarkable things noticed by an Englishman on arriving in America is the absence of posters from many places where we are accustomed to see them in England. I had expected to see every flank wall and hoarding covered in American cities, but saw hardly any.

On none of the good-class theatres in America are huge posters hung. The large and important cinemas confine their advertisements entirely to the fascias of the canopies, one or two vertical hanging signs at right-angles to the main wall for naming the building (they are very fond of these), and a few small posters at eye level, usually only one on either side of the entrance.

By far the most valuable advertisements for any show are those published in the newspapers, and the mere indication of what is going on in that particular building, with the display of a few small photographs, perhaps, is all that is necessary on the outside of the building itself. The psychology of it is this. The greatest number of people, on making up their minds to go to a cinema or theatre, either search the advertisements in the newspapers for their choice or take the advice of friends. This section includes all those who book their seats in advance, and all the patrons of the more expensive seats. The others, those who presumably are attracted only by the advertisements plastered over the outside of the theatres, have to choose between the signs of one showman and those of the other showman next door or elsewhere, each of whom will compete at great expense to himself to outdo the other. I am convinced, after conversation with many patrons of the theatre of various classes, that very few go inside because of the advertisements without. Some may be attracted by the name of the show, some by the names of the artists performing, but not more than 2 per cent—and they surely must be the least intelligent of all classes—go inside because of the posters. What a colossal waste of money, therefore, these posters must represent in this country!

It is regrettable that the London County Council, whilst it restrains so much, cannot restrict some of the more vulgar things that are at present permitted. In the building code of the City of New York, signs and show-bills are very definitely regulated, and special restrictions are mentioned for the better-class streets. For instance, "in the Borough of Manhattan, on Fifth-avenue, between Washington-square North and 110th-street, or on 34th-street, between Fourth-avenue and Seventh-avenue, or on Madison-avenue, between 34th-street and 72nd-street, or on 57th-street, between Lexington-avenue and Broadway," no illuminated signs are allowed, except carriage calls, or an illuminated sign not in the nature of an advertisement, which may be erected and maintained temporarily on these streets for not more than one month, in connection with the celebration of a patriotic occasion of extraordinary public interest not occurring annually.

Sky or roof signs can be built up to a height of 75 ft. above the level of the roof of the building, and to almost the length of a block—that is, the space between two parallel streets. These are built up of steel framing, made strong enough to bear a wind pressure of at least 30 pounds per square foot of area. It is these which make the reputation of Broadway. In England, happily, they are not allowed.

A specially favoured sign with the American cinema proprietor is the kind which sticks out at right-angles to the wall face, about two feet over the street, and runs up from the first floor to the roof, or as high as possible. These are illuminated at night and bear the name of the theatre in large letters vertically over one another.

The name of the cinema picture or show to be performed inside is usually found upon the fascias of the canopies; sometimes the canopies are very deep and bear three rows of lettering. These deep canopies are extremely hideous affairs, and we have the London County Council to thank that they are not permitted in this country.

A particularly untidy and objectionable feature of some American streets is the outside fire-escape, which is hung across the face of a building in a most untidy manner. In the poorer quarters there are masses of these iron stairs covering the walls of the tenements. They are still to be seen across the front walls of the older theatres in New York, often running right across important architectural features. In the newer theatres effort has been made to incorporate them in the design, sometimes very successfully, but it is only recently that the difficulty of treating them architecturally has been solved. A good example is that of the Erlanger Theatre, in New York, by Messrs. Warren & Wetmore, where the external fire-escapes from the balcony on the street elevation are enclosed in a cabinet of ornamental cast-iron with wrot-iron grilles in the openings. The method employed of placing these external escapes behind a screen wall, as in the 46th-street Theatre, New York, means that the auditorium wall has to be set back, and in consequence much valuable seating accommodation is lost.

ILLUSTRATIONS

PLATES.

"Temples in Stones."

The inspiration of this drawing, by Mr. Reginald Hallward, is described in an article given on page 155.

New Schools, Stewarthy, Bedfordshire.

The design which we illustrate was submitted in a private and local competition by architects practising in the county, with one exception. The plans are for a senior and junior school accommodating 420 scholars. The design embodies a central hall, classrooms and quadrangles, the junior block being a separate building. The elevations were to be carried out in Forder's rustic bricks, with red tiled roof.

This design was submitted by Mr. George P. Allen, F.R.I.B.A., of Bedford. The winning design was submitted by Mr. Oswald P. Milne, F.R.I.B.A.

New Halls, Dorking.

The accommodation provided by these halls, which have just been opened in Dorking, may be studied from the plans reproduced on the facing page. The heating and ventilating system is provided with an "Urquhart" oil fuel plant; fresh air passes over all radiators, and foul air is drawn off by means of an electric fan in the roof. The installation is by Rosser and Russell, Ltd. Electric light throughout the building is by Buchanan and Curwen, of Leatherhead, with special fittings by the General Electric Company and Holophane, Ltd. The large hall is principally lighted by means of invisible reflector lights in the main cornice.

The stage can be fitted for both concerts and stage plays. For concerts a choir of 300 with an orchestra of 80 can be staged on a rising platform specially devised and fitted by Scaffolding, Ltd., in which case the proscenium screens and curtains will be entirely removed. For plays, operas, etc., a complete stage is provided with a sunk orchestra for from 30 to 40 performers. A modern equipment for scenes, lighting, etc., has been arranged for. The halls are floored throughout with grooved and tongued flooring, laid by the Acme Flooring Company, that in the small hall having a special sprung dance floor fitted by Francis Morton (Junior), Ltd. The fibrous plaster ceilings and other enrichments are by Plastering, Ltd. The marble floors to entrances, etc., are by the Art Pavements and Decorations, Ltd., and Cabot's quilt to end gallery wall of large hall has been supplied by the May Construction Company.

The premises are well equipped with fire appliances, viz., fire hydrants, Pyrene fire extinguishers, etc. The East Surrey Gas Company has installed an alternative system of gas lighting, together with cooking apparatus in the kitchen. The constructional steelwork throughout has been provided and fitted by H. Young and Co., of Westminster, and externally the walls have been faced with "Atlas White" cement by E. J. and A. T. Bradford, and roofed with pantiles by H. Thornton and Co., of Leatherhead. All sanitary fittings are by Shanks and Co., and laminated doors are by Laminated Wood Products, Ltd. The large hall, simply treated, has been finished in "Parso Glaze," and the curtains, with other stage effects, have been provided by Messrs. Grantham, of Leatherhead.

All paint was supplied by Thomas Parsons and Sons, Ltd., and asphalt by the General Asphalte Co., Ltd.

Messrs. W. H. Gaze and Sons, Ltd., of Kingston-on-Thames, were the general contractors, and the general foreman Mr. F. Johnson.

The architect is Mr. Percy W. Meredith, F.R.I.B.A.

Messrs. C. Stanger and Son were the quantity surveyors.

"The Spinney," Ashton-on-Mersey.

This house, which has been erected for Mr. Travers Pickmere, has a total floor area of approximately 2,500 sq. ft. exclusive of the garage, the latter being built in the form of a projecting annex, forming a forecourt. The site being north aspect, the plan has been arranged so that all rooms, with the exception of the fourth bedroom, face south. The unusual shape of the living-room is the outcome of placing the bay window on the south-east corner, overlooking a spinney. The building materials employed are multi-coloured facing bricks and Tukers' Loughborough sand-faced tiles. The general contractors were Messrs. J. E. Dean and Sons, of Ashton-on-Mersey.

The scheme of decoration was carried out by Messrs. Wm. Gowling, of Manchester, in "Parso" glaze with special stippled effects on all woodwork. The front door and French window are coloured jade green, with architraves and cornice in old ivory, the high lights being wiped off. The fireplaces were supplied by Messrs. Wm. Henry and Co., of Manchester, embodying special hand-painted tiles designed by Messrs. Carters, of Poole, Dorset.

Mr. Philip H. Cundall, A.R.I.B.A., of West Timperley, near Manchester, is the architect.

St. John's-lane Site, Liverpool.

A competition for the development of a site fronting St. John's-lane, Queen-square and Roe-street, Liverpool, was recently promoted by the General Building Syndicate, Ltd., the assessors being Messrs. Duncan A. Campbell, F.R.I.B.A., and William E. Mounsey, F.C.A., whose full award was given in our issue for January 2. We now illustrate the first premiated design, by Mr. W. Pritchard, A.R.I.B.A. (premium £250). The scheme comprises a garage for 160 cars—basement and sub-basement; a store—six floors; a hotel with billiard-rooms and grill-room; office accommodation—three floors; and a top story of roof-garden type.

BOOK REVIEWS

By the Way. New Verse. By D. Palmer-Jones. The Purley Press, Purley, Surrey. Price 5s. net.

We are seldom called upon to notice works of poetry in these pages, but a small and pleasing volume has reached us which calls for attention from the fact that it is by one who is well known in the building industry. It contains nearly 90 short poems, in addition to a section of philosophic rhymed couplets. The author, who has a pleasant gift of versification, ranges over a variety of subjects and gives expression to many moods. He is perhaps happiest when writing of the charms of the countryside, and while his work, like that of most of us, is somewhat unequal in quality, one cannot open the book at any page without finding something of interest.

The Concrete Year Book, 1931. Edited by Oscar Faber, O.B.E., D.Sc., M.Inst.C.E., and H. L. Childe. 708 pp. London: Concrete Publications, Ltd. 3s. 6d. net.

The new edition of this well-known work of reference, now in its eighth year, has been still further enlarged. The Handbook Section, of more than 200 pages, contains a great deal of valuable information of every-day use to all concerned with civil engineering and constructional work. Chapters are included giving tabulated designs for foundations, floors, walls, beams, columns, and other building members to carry various loads, illustrated with clear diagrams. Many subjects are dealt with. The Directory Section contains a complete directory of the concrete and allied industries, with a list of trade names and brands with the names and addresses of their proprietors. In the Catalogue Section are 370 pages describing the businesses and products of firms engaged in the concrete industry or supplying plant and materials for constructional work.

ARCHITECTURAL ASSOCIATION

MODERN PAINTERS.

An ordinary general meeting of the Architectural Association was held on Monday last at Bedford-square, W.C., Mr. G. Grey Wornum (president) being in the chair. The formal business included a vote of condolence with the relatives of the late R. T. Morris, J. Duncan Tate, J. J. Freeland, and Professor R. E. Smith.

Mr. R. H. Wilenski then delivered an address on "Modern Painters" (illustrated by lantern slides), dealing with his subject under the following headings:—(*a*) The fight with the camera, (*b*) Séurat and Cézanne, (*c*) The fight with the romantic movement, (*d*) The classical achievements of Picasso, (*e*) A word or two about Chirico, (*f*) A word or two about modern English sculpture, and (*g*) A word or two about one or two of the English painters whose works were on exhibition at the Architectural Association.

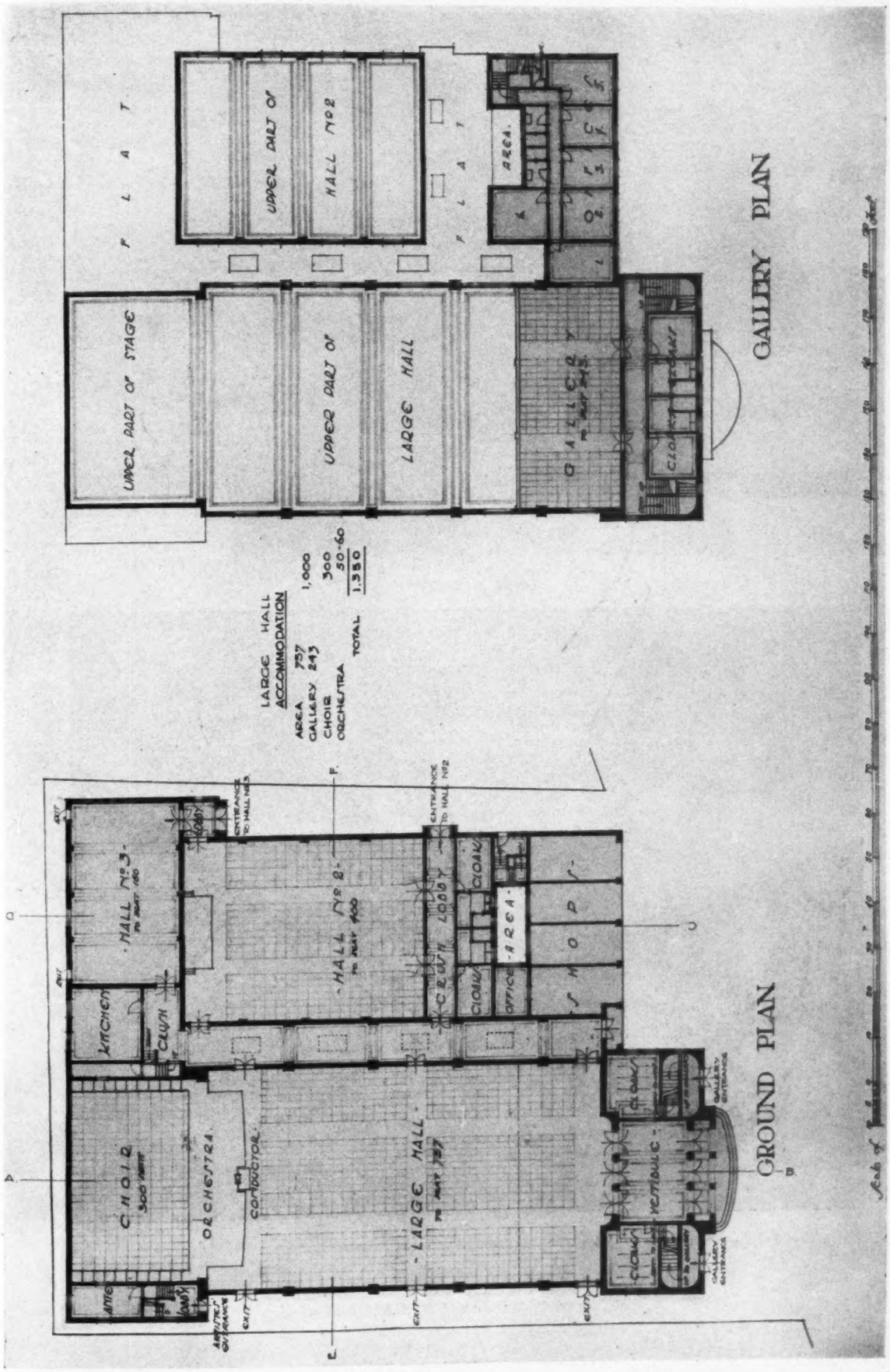
Speaking of (*a*), the fight with the camera, he said that everybody knew that photography and art could never have anything to do with one another, and that the camera was the great enemy of the artist. The first essential of understanding modern art history was to realise that its essence was the fight against the camera; that one of the main struggles of artists for the last sixty years was to extract from art, as it was known in the middle of the nineteenth century, the elements which could not be achieved by the camera, build upon them a new art, and evolve from those elements a new conception of the word beauty. The beginning of this struggle had been a complete victory for the camera. The camera was an instrument which could not record form and could not comment, but it recorded light and obstructions to light. A great difficulty of the artist to-day was to retain anything like a homogeneous character in his work.

Manet's picture of the Paris Exhibition of 1867 contained almost as much incident as Frith's Derby Day. It was that kind of Impressionism which consisted of taking a canvas and painting very rapidly the effect of things as they appeared when seen through half-closed eyes. Such pictures were better done with a camera. The first to see that painting of that kind was a degradation of the art was Séurat, and a picture of his in the Tate Gallery, "La Baignade," presented the kind of impulse which was behind the return to consideration of design and so forth, which was one of the aspects of the modern movement. Séurat was remarkable for the amount of work he gave to the painting of a picture: every inch of it was worked out in preliminary studies. At first glance "La Baignade" appeared an Impressionist picture of sunlight, made rather stiffer, but otherwise an Impressionist picture; but if one thought of its serenity, and the sense of satisfaction and permanence that one got in looking at it, as compared with Manet's picture of the Exhibition, one saw that nothing could be further removed than this picture from an Impressionist painting of the same subject.

Speaking of the fight with the romantic tradition, the lecturer said the romantic artist dealt with the emotive fragment in life, as opposed to the classical artist, who was concerned with arriving at some apprehension of the general laws which lay behind phenomena. In other words, the romantic artist seized on the particular, and stressed the aspects in which it differed from the normal, whereas the classical artist was seeking all the time for the norm.

In later parts of his lecture, Mr. Wilenski dealt with the use made by modern artists of Oriental caligraphy, Chinese and Indian painting, negro and Egyptian sculpture, the Cubist and modern English schools.

A short discussion followed, and a vote of thanks was passed to the lecturer.



Public Halls, Dorking.

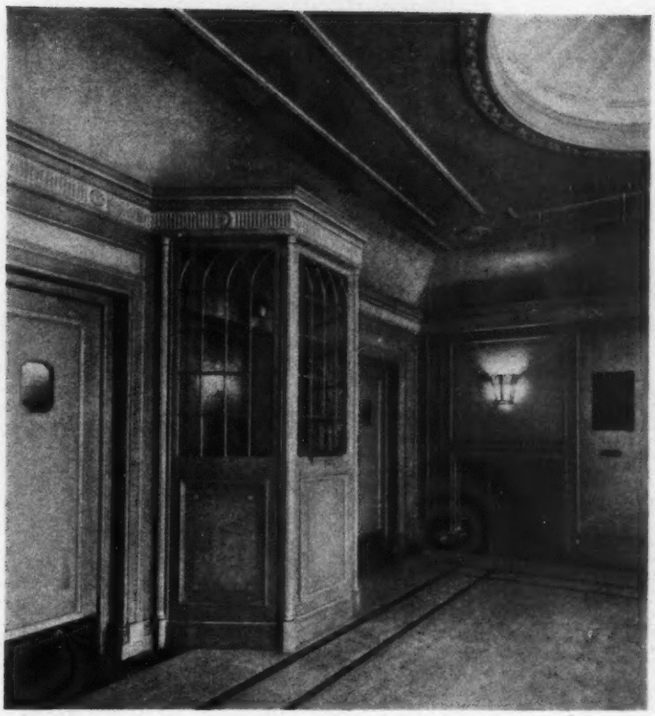
Mr. Percy W. Meredith, F.R.I.B.A., Architect.

Main Frontage.

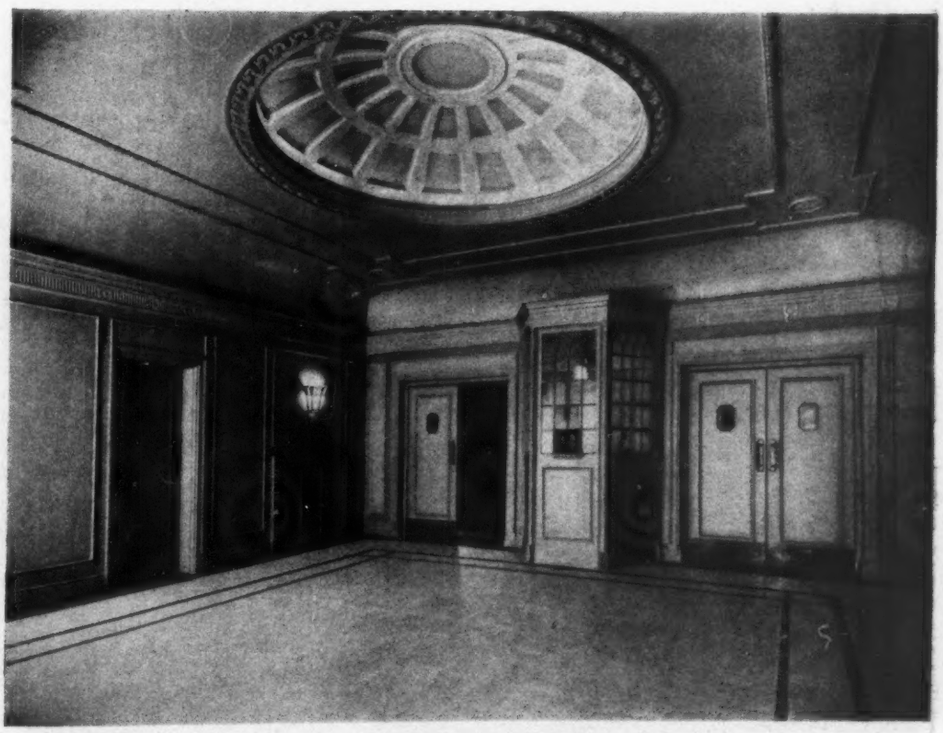
Large Hall, looking towards Gallery.

Public Halls, Dorking.

Mr. Percy W. Meredith, F.R.I.B.A., Architect.



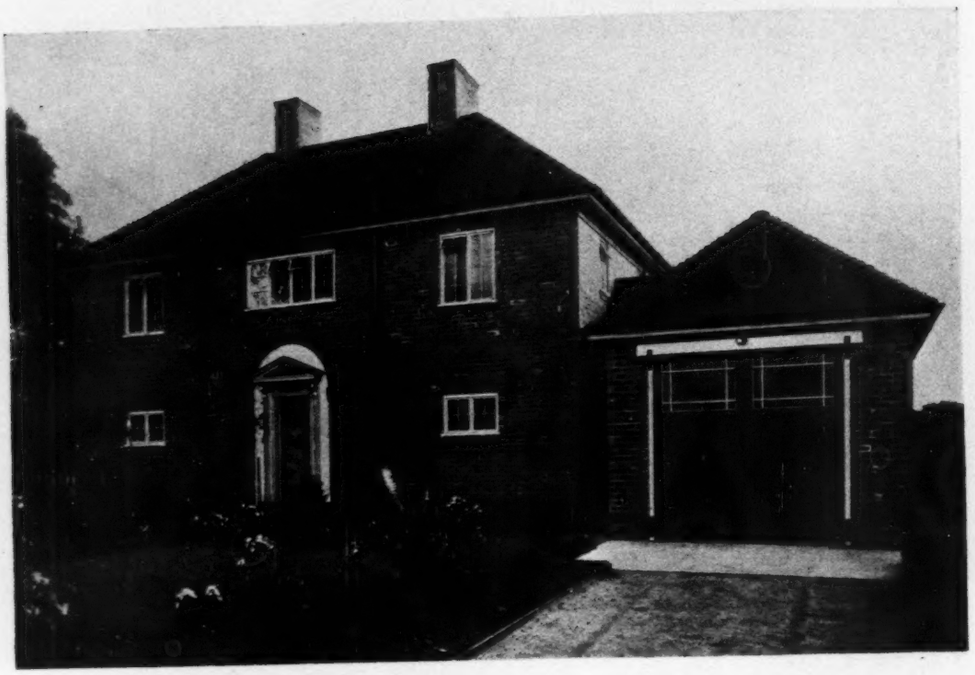
Detail of Foyer.



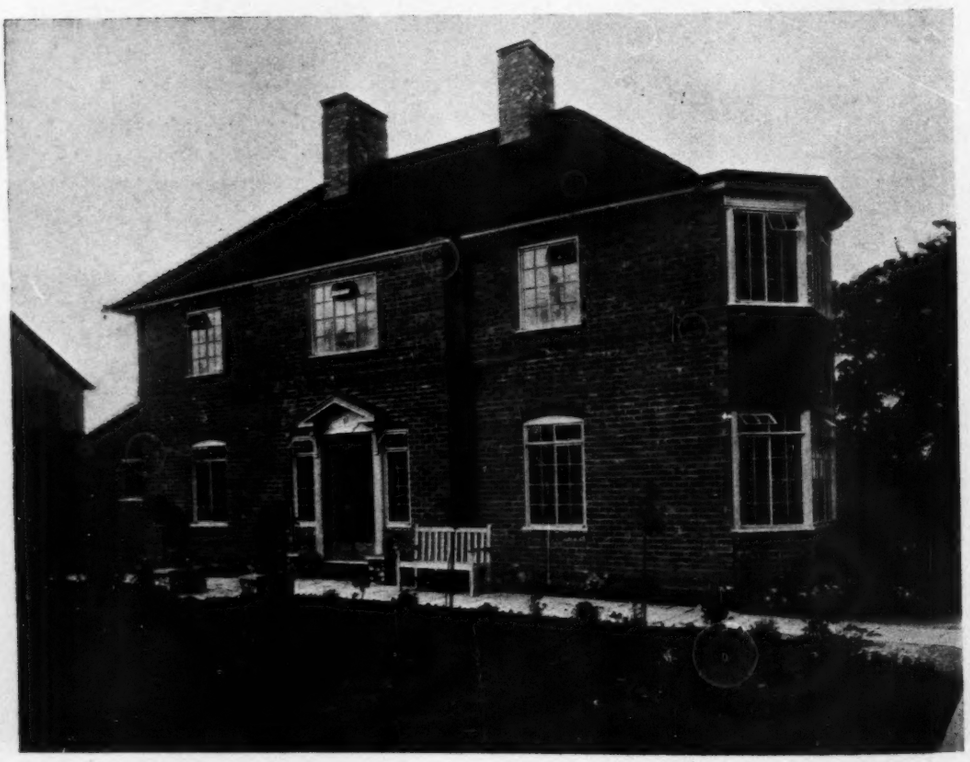
Foyer of Large Hall

Public Halls, Dorking.

Mr. Percy W. Meredith, F.R.I.B.A., Architect.



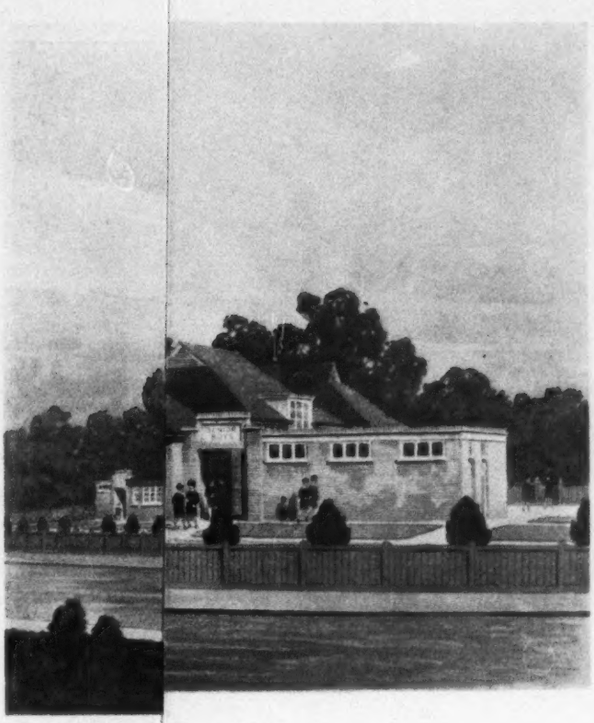
Entrance Front.

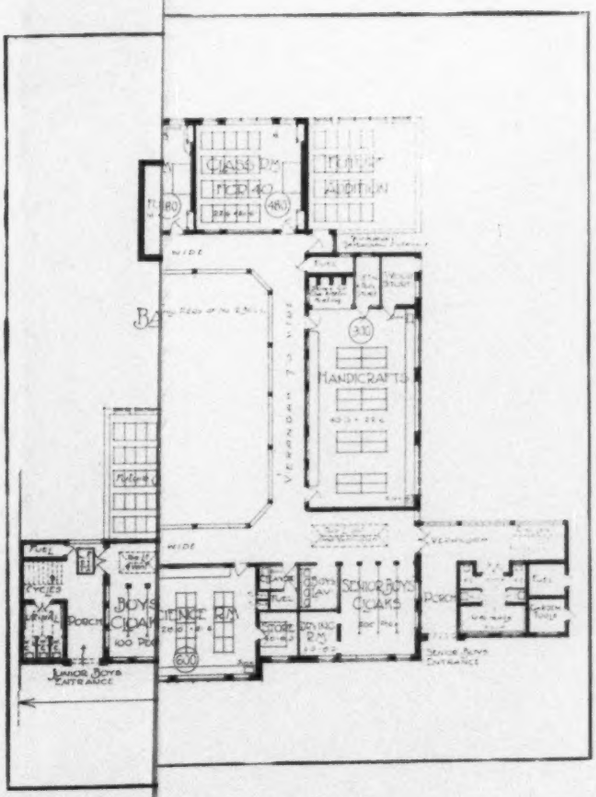


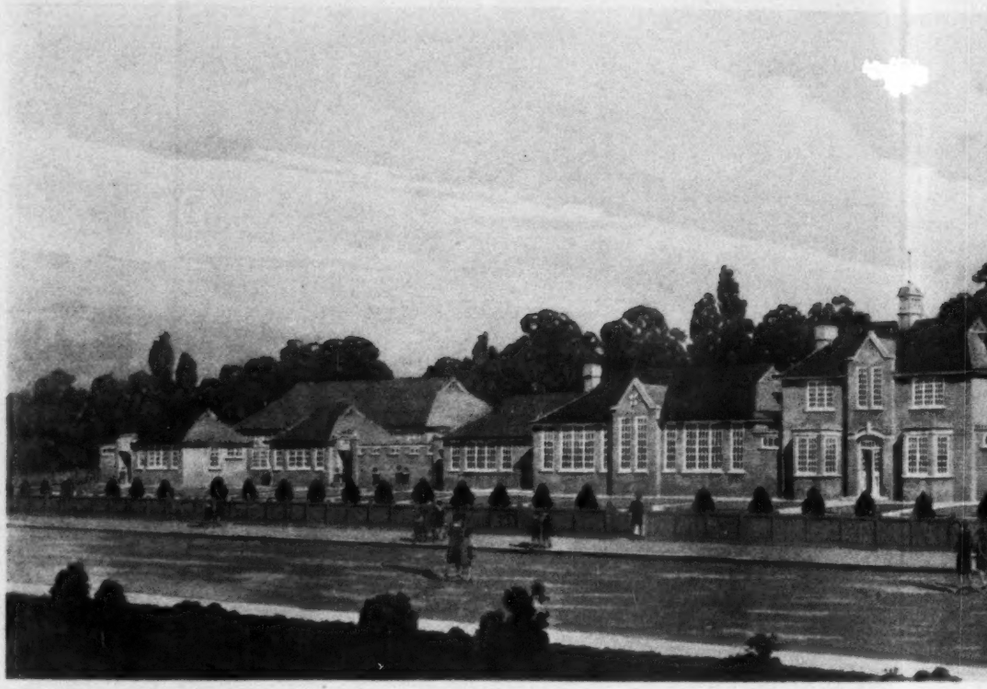
Garden Front.

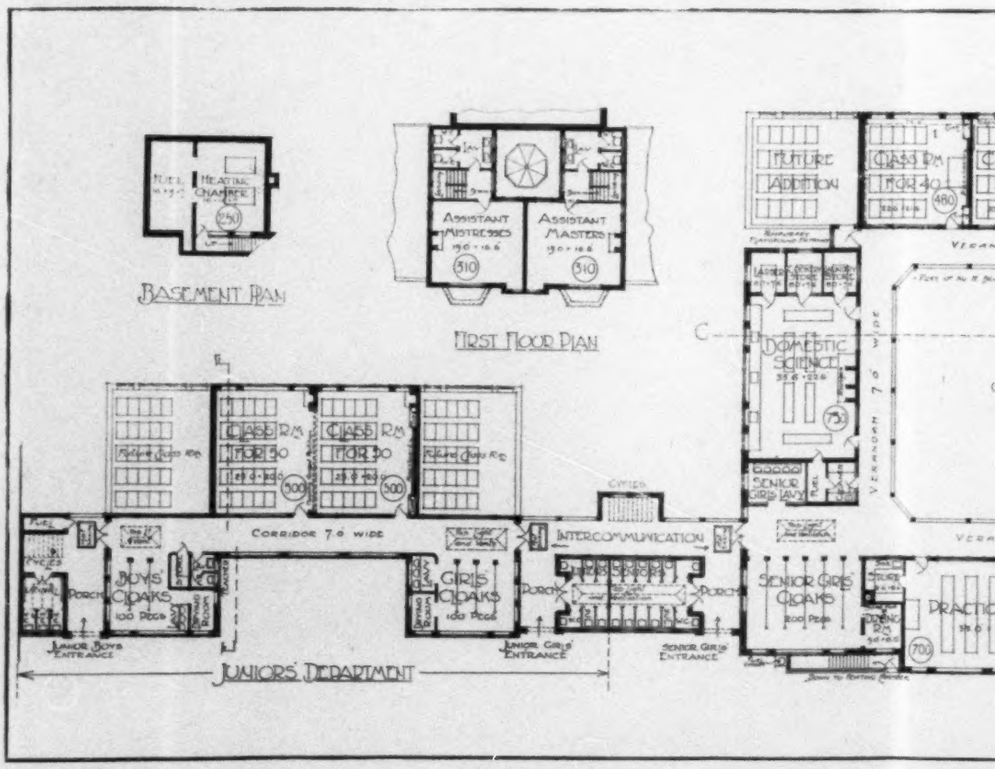
"The Spinney," Moss Lane, Ashton-on-Mersey.

Mr. Philip H. Cundall, A.R.I.B.A., Architect.



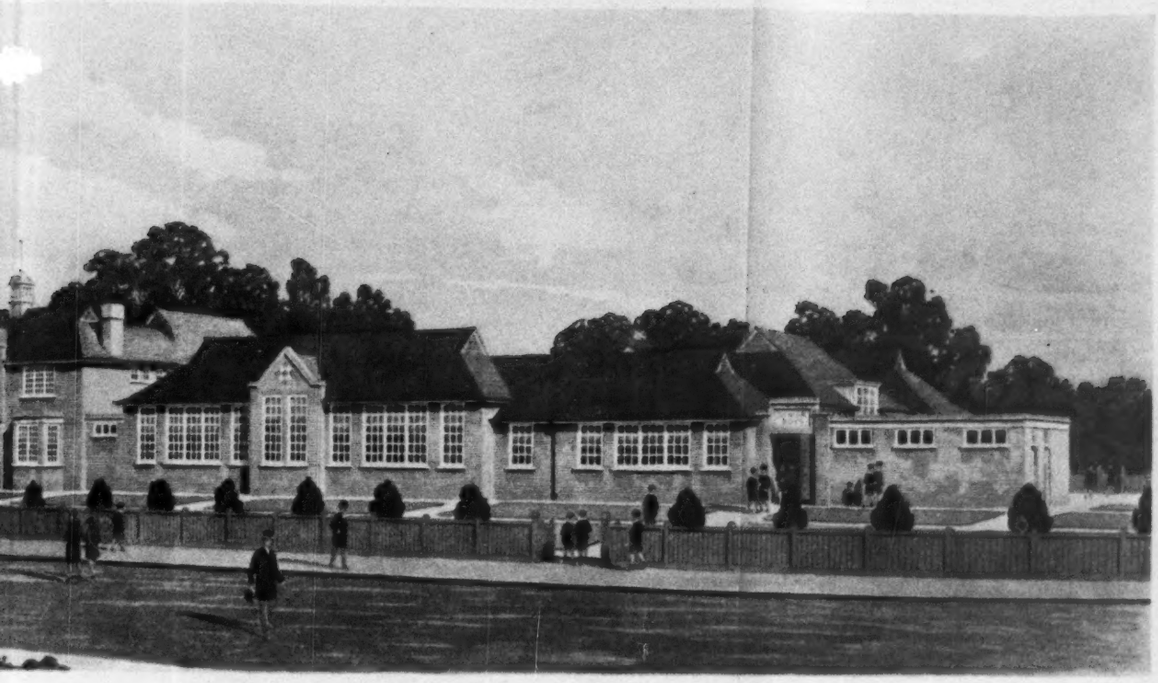

HANDICRAFTS
SENIOR BOYS CLOAKS
BOYS CLOAKS
JUNIOR BOYS ENTRANCE
SENIOR BOYS ENTRANCE
PORCH

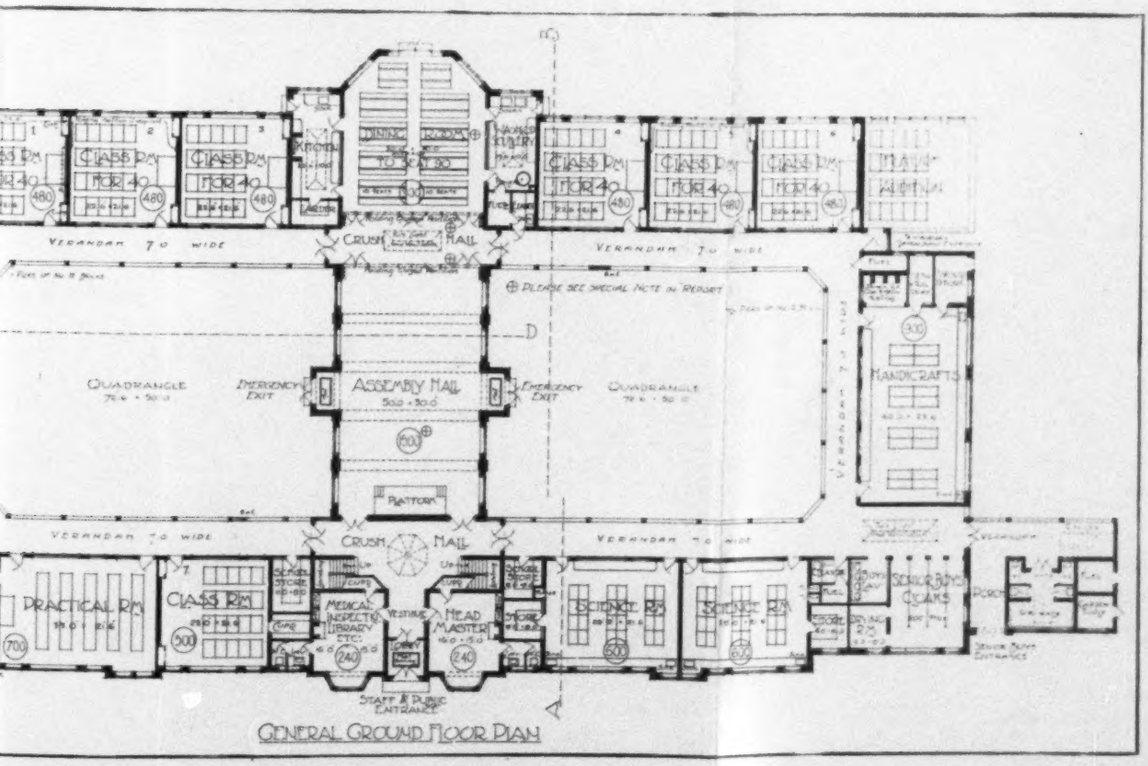




Design submitted in Competition

By Mr. Georg





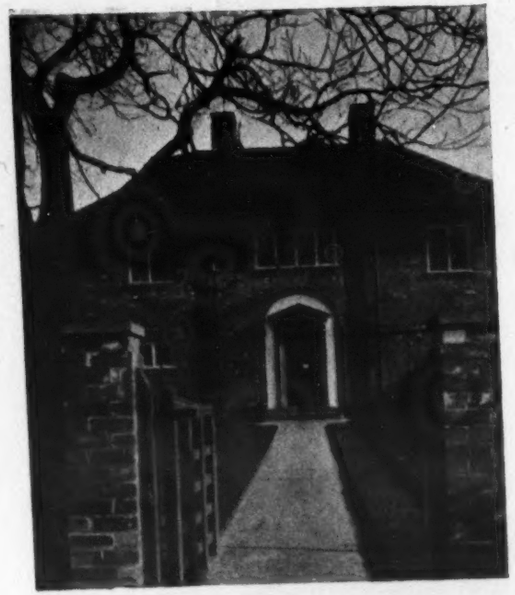
mpetition for New School at Stewartby, Bedfordshire.

MR. GEORGE P. ALLEN, F.R.I.B.A.

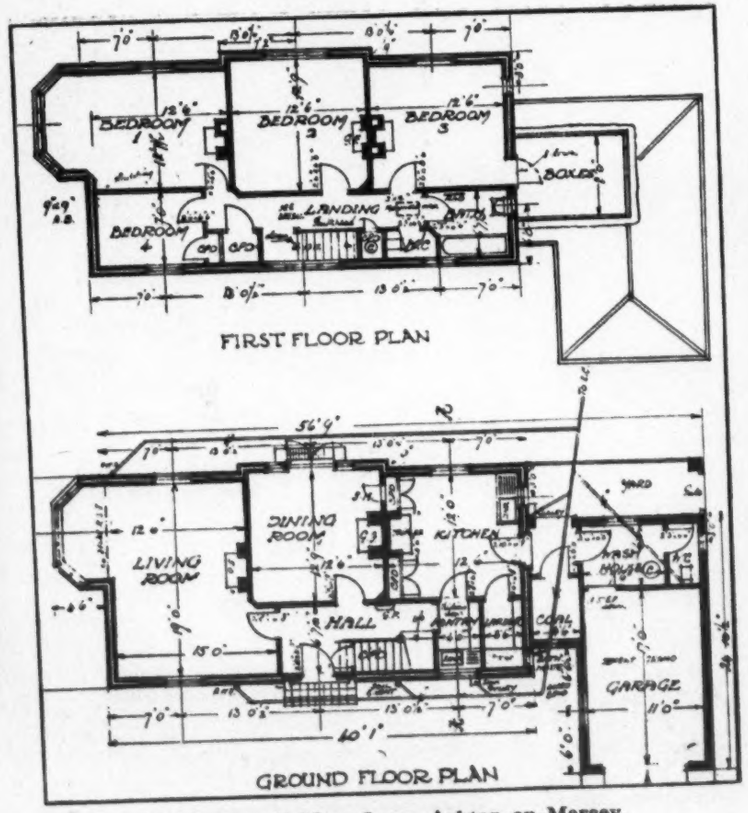
"Temples in Stones."

A drawing inspired by the Limestone Cliff formations at Branscombe. By Mr. Reginald Hallward.

(See page 155.)



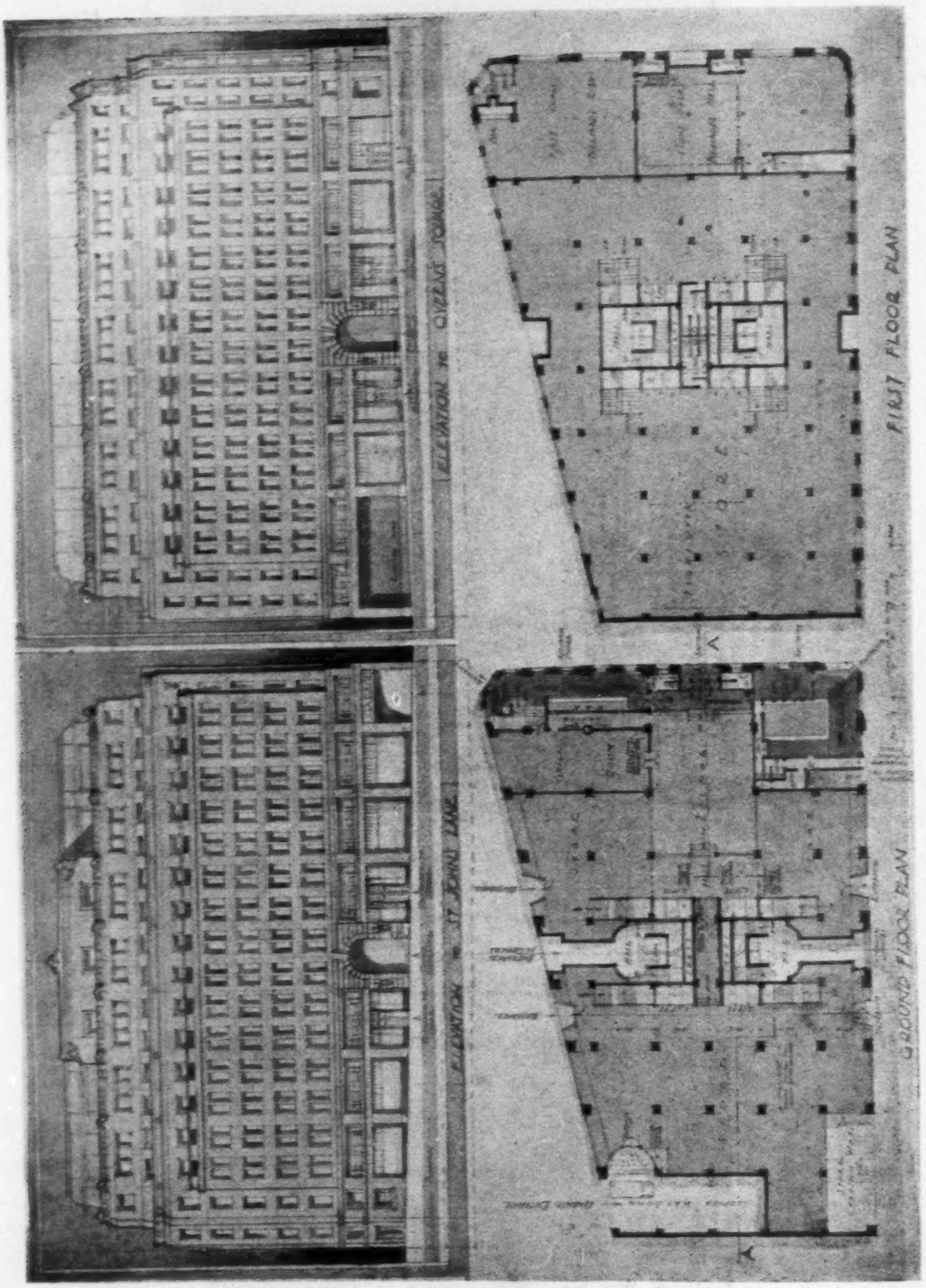
ENTRANCE FRONT.



"The Spinney," Moss Lane, Ashton-on-Mersey.

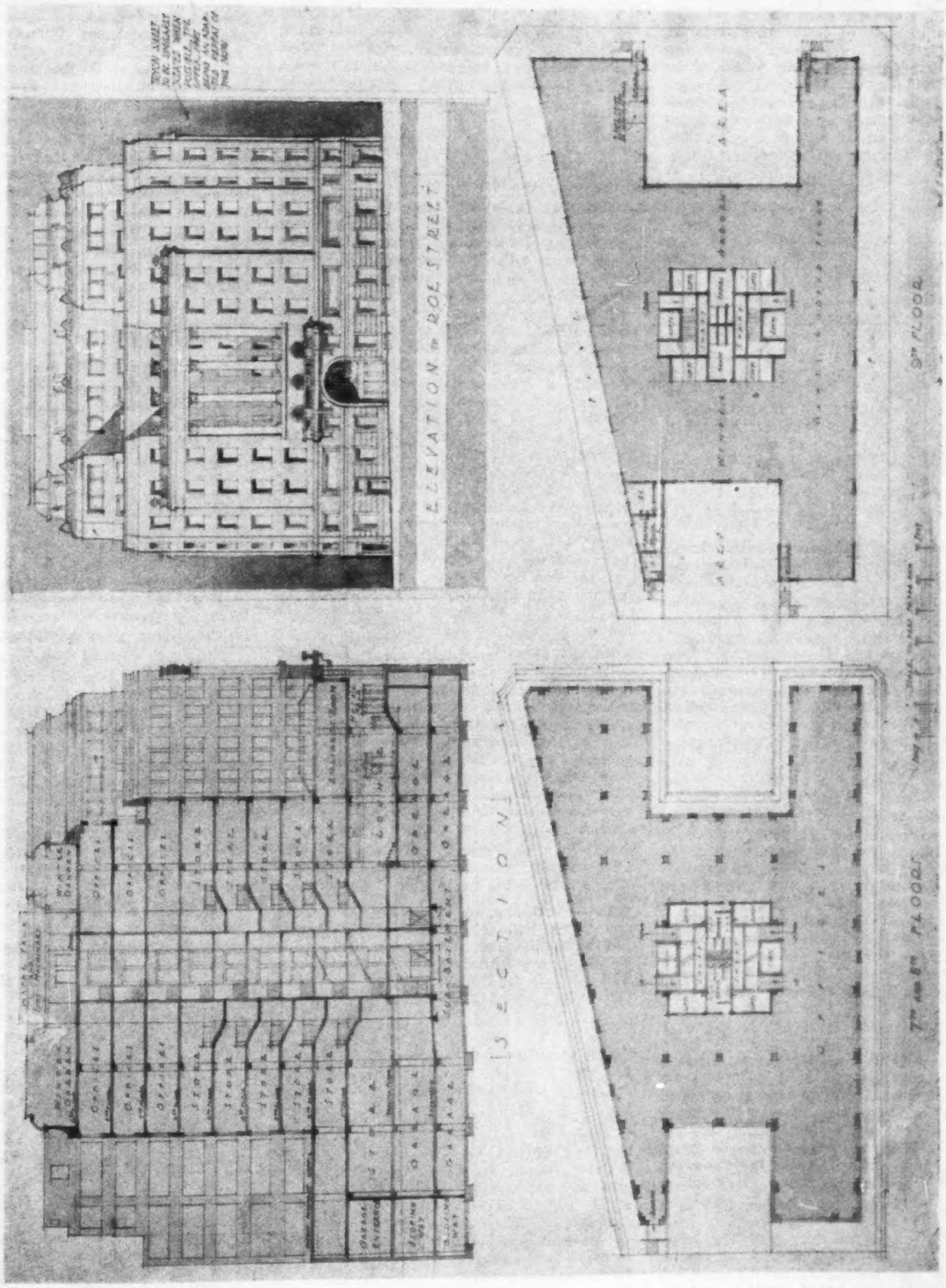
MR. PHILIP H. CUNDALL, A.R.I.B.A., Architect.

DETAIL OF GARDEN FRONT.



Competition for Site Development, St. John's Lane, Liverpool: First Premiated Design.

By Mr. W. Pittchard, A.R.I.B.A.



Competition for Site Development, St. John's Lane, Liverpool: First Premiated Design.

By Mr. W. Pritchard, A.R.I.B.A.

THE QUILLER LETTERS

THE OUTLINE OF AN ARCHITECTURAL EDUCATION.

Annotated by M. A.

[The names used in the Quiller Letters are all fictitious, and do not refer to any living person.]

II.—STRUTTING AND PLANKING.

The following two letters are marked in R. B. W.'s handwriting, "Copies to Winsladen," and are evidently the copies referred to in a later letter to the latter gentleman. The first is an interesting specimen, being typed on blue paper of an imitation hand-made quality. In the right-hand top corner are the words "Tel. Sandsea 10 (4 lines); Telegrams, Jevonsby, Sandsea." A heading in large block type in dark blue reads: "Ravenscroft Jevonsby, Architect, Surveyor and Structural Engineer." It is dated June 12, 1905, under the printed address: "Inigo Chambers, Sandsea, Sussex."

R. B. Watcher, Esq.,
Gables, Hampstead, N.W.

SIR,—I understand from my friend Mrs. Quiller that you have been pleased to intervene in an arrangement between us regarding the articling of her son.

I write to warn you that if you do not cease in this unwelcome and unmannerly interference I shall refer the matter to the Institute of Architects, of which body, I understand, you are a member, though I am unable to trace any executed works of yours whereby I may judge of your standing.

Yours faithfully,
RAVENSCROFT JEVONSBY.

The other is in the now familiar handwriting of Mrs. Quiller, and dated the same day.

MY DEAR MR. WATCHER,—I am so sorry to bother you again so soon, but a development has arisen which leaves me thoroughly perplexed and not a little worried. You will remember my mentioning Mr. Jevonsby, the local architect, and something of the conversation we had had together about Rex.

He called on me yesterday to settle, much to my surprise, the date on which Rex should start his articles with him! I had not dreamed that he had taken anything I had said as settling anything, and I do not think anything I said could be so construed; but it was quite evident that he had taken it that way, and had already made arrangements, some of which I am afraid have run him into expense. He was quite pleasant about it until I mentioned that you had advised me that the premium he mentioned was too much, which he seemed to take rather ill. He asked for your address so that he could discuss the position with you, so you may be hearing from him. I hope you do not mind dealing with it.

What is worrying me is that he left me with the impression that he considered there was a legal verbal contract between us, to which a friend was witness, and that there would be a law case if I attempted to withdraw. Mr. Watcher, I really cannot afford litigation, and should simply have to capitulate if it came to that.

What I wondered was whether you, as a man of the world, could suggest some arrangement under which I paid him something for his expenses, and a bit more, perhaps, so that we can follow the excellent course you have advised, with as little expense as possible. But I know how the money can disappear in the Courts, having had bitter experience of it, as you know, when John was alive.

I am really very worried.

With kind regards,
Yours sincerely,

P.S.—I have just had a note from J. saying he will call to-morrow afternoon for my decision. I really do not know what to do.

(Following these two letters is a slip giving the wording of a telegram, evidently dispatched the following morning immediately after the post carrying the above arrived.)

"Quiller, Chichester-road, Sands: 'Give no decision and refuse discussion. Am calling on J.'—WATCHER."

(No further correspondence appears in the file for a week after the above, when one to J. D. Winsladen, Esq., F.R.I.B.A., of 22, Great John-street, Gray's Inn, W.C.1, appears. The date is June 20, 1905.)

MY DEAR J. D.,—I am glad to say the matter of young Quiller is now settled, after an amusing if unsavoury interlude, of which I must tell you. The enclosed copy-letters will serve as the introduction to the small drama-comedy. Following Mrs. Quiller's call for help, I went straight to Victoria and boarded the next train for Sandsea, where I discovered the home of the lion. I arrived apparently just in time to intercept his call on Mrs. Quiller, and was able to call his bluff. Professionally, the man is an outsider of the worst type. The backbone of his business is providing speculative builders with bad plans at half-a-guinea a time, in which he does quite a roaring trade. He has also done one or two big jobs, which he contrives to carry out to the designs of his sub-contractors. Terra-cotta faced, of course, and decorated by Splash and Co. to their own design, while the steelwork contractors plan the skeleton. In such fashion, and with the help of swell noteheading, he has contrived to make his name known throughout a fifteen-mile radius.

He tried to brazen it out by claiming to have had the articles engrossed, and a lawyer engaged; and to have taken extra room and bought extra equipment; none of which claims could he substantiate in any way. I stuck to him until I could go on to Mrs. Quiller with a written statement that the great R. J. did not consider he had any claim upon her, and I am inclined to think I left him a trifle scared.

But is it not scandalous that that type of man can masquerade under the title of our honourable profession

You, Strathsay, and I must meet and lay our heads together to give young Quiller the best start possible. I can assure you he is a young fellow in whom interest will be well repaid.

Yours always,
R. B. W.

(Dated a fortnight after the above [July 4, 1905] follows a further letter from my friend to Mrs. Quiller.)

MY DEAR MRS. QUILLER,—I was so glad to introduce you to Winsladen and to leave the two of you to hammer out details, which I could trust him to settle fairly and dispassionately. I think the fee of £150, which he suggests for three years' articles, following Rex's course at Prince's, to be quite right and proper. I should imagine his usual charge in the case of an untrained youth would be £250, for he has a really excellent practice, and is in the first flight as a London architect. He has, no doubt, taken into consideration the fact that Rex will be partially trained when he comes to him, though you must not exaggerate in your mind the extent to which his usefulness will have developed when he leaves his College. My experience of the school product is that although they have become to some extent "architecturally minded," and, of course, used to the "feel" of a drawing-board and tee-square, as assistants, it is a long time before they can be entrusted with responsible work. In the School, mistakes and inconsistencies in their drawings do not matter much; but in the office they may be fatal if not detected in time by a superior officer. One really needs to experience a negligence case to realise how fatal they may be. I mention this only to correct any impression you, as a laywoman, may have, somewhat naturally, that an architect is fortunate to secure a trained student as his pupil. Often in such cases the part-knowledge of the student is more than counterbalanced by a false self-confidence, born of a course of training which has the superficial mark of completeness. To be quite frank, if I wanted a young man to train to be a useful assistant to me, I should prefer to have him quite green. But he would probably only develop as a useful assistant, and would get no farther. Your boy aims to be an architect, not an assistant, except in so far as the latter state is a step to the final goal.

You are not, of course, bound to Winsladen in any way, and will not be so for another three years. But it is a good thing for the man who will probably finish the training of your boy to get to know him early, and follow the course of his early training with interest.

With very kind regards,
Sincerely yours,
REGINALD B. WATCHER.

(The following, in Rex Quiller's hand, is dated July 20, from Sands.)

DEAR MR. WATCHER.—I enjoyed my few days in London very much, and am very grateful to you for having put me up and also for having given me a peep at the inside of Prince's. I thought the studio, with its columns and gallery, a lovely place to work in, and I am looking forward to being there—that is, I *was* looking forward to it.

What has a little unsettled me is a talk I had with Stacey, an Old Boy of Sands, who preceded me as School Captain, and who was down for the Old Boys' match last week. He is training in architecture at the Guild School, and strongly advised me to go there rather than to Prince's. He says the latter is old-fashioned, and that they have a very poor show of drawings each summer. He says that at the Guild they start designing straight away, and that at Prince's only the third year students do any design at all, and very little at that.

Stacey is a fairly level-headed sort of fellow and not given to slack talking, and as he is on the spot I cannot help wondering, if you will forgive my saying so, whether you know what the schools are doing now. What I mean is, that perhaps you knew Prince's some years ago when it may have been the best place of its kind, and it may have deteriorated since then, or better places may have developed. I want to go to the best place possible, and though I have now met Mr. Strathsay and more or less decided to go to him, it is not too late to change, since I should not have actually to enrol before the day previous to term starting (October 4).

I am sure you will not think I am setting up to know better than you do, but I have been thinking a lot about it, and the more I have thought the more doubtful I have felt about Prince's. I would be very grateful to hear what you think about it.

You will be glad to hear that I took the Drawing and English prizes this year, and also got through Matric. I believe the latter helps me if I go to Prince's.

With kind regards,
Yours sincerely,

(Watcher appears to have taken his time in answering the above, since the following bears the date of July 15. This may have been deliberately designed to hold the youth in suspense, though as it is addressed from

Cornwall, holiday movements may account for the delay.)

My Dear Rex,—I am delighted that you unburden yourself of your doubts as they arise, and that you do so to me. Do not ever hesitate to do so.

You may have had time to think things over since you wrote, and perhaps the perspective of things may have already become clearer. Your friend Stacey, I presume, has been out in the world a bare year now. That is rather a short time in which to have become sure of relative values, don't you think? Loyalty for his school is an excellent quality, and youthful loyalty generally implies a little friendly contempt for the rival. You must discount a little of your friend's opinions on that score.

I do not want to throw my grey hairs at your faces, but years bring experience, you know. But as that is no very convincing argument in support of my opinions I should add that, far from not knowing Prince's within recent years, I am at present the official visitor from the R.I.B.A. to Prince's "Federal College" and the Guild, so I happen to be upon rather a peculiar point of vantage in comparing one with the other. Both Federal and Guild are larger and more ambitious schools, and in both, but especially the latter, I always feel that the bulk and quality of the next Summer Show influences the year's work far too much. It is true that there are always a number of ambitious and often beautifully rendered schemes at these shows; and in the work of all years, designs, purporting to be the conceptions of individual students, cover the walls.

Now you can take it from me that, however brilliant, no young student is fit to design at all in his first year; very few in their second, and comparatively few in their third. Design is not a subject to be taught at all, to my way of thinking. It will come naturally from a man who has absorbed sufficient knowledge, sufficient discrimination and sufficient inclination. If a student is thoroughly grounded in his orders, encouraged to measure and draw the right sort of old building, and to absorb the main principles of building construction, you need not bother your head about teaching him to design. He will design naturally, and better and better as he gains confidence in himself.

The chief task of his early education is to teach him the grammar of architecture and his architectural alphabet, so that he can make himself understood in an architectural language. Then he can compose. You cannot teach a schoolboy to be an author, but you can teach him grammar and composition; and you can interest him in literature. It is just that with architecture.

That is Strathsay's method at Prince's, and I like it. He invariably gets the best report from me each year, and I have the very fullest confidence in his way of approach. I agree that his Summer Show is a comparatively stodgy one, but it is sound stuff. Think it over a little more, and you may come to feel that I may, after all, know a little more about the subject than your impulsive young friend.

With kind regards, my boy,
Sincerely yours,
Reginald B. Watcher.

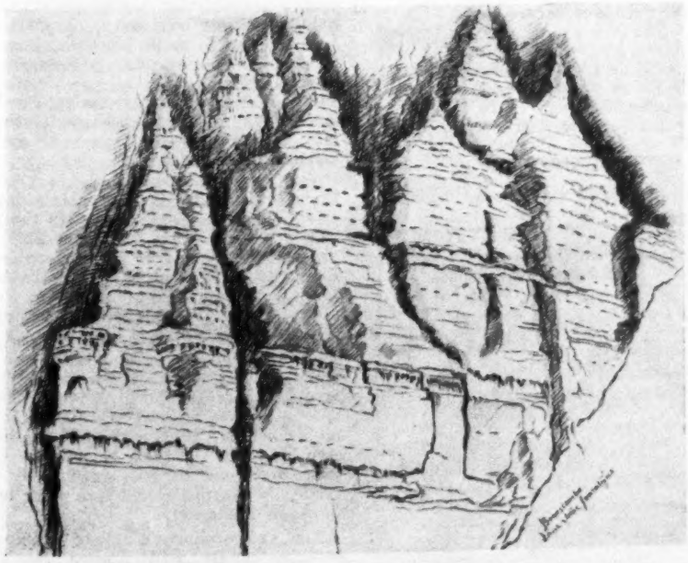
TEMPLES IN STONES.

By REGINALD HALLWARD.

Looking up from the shore at the towering limestone cliffs on my coast walks, I see vast formations thrusting themselves out from the cliffs' face, exposed by the immense falls which now form the undercliff below. A ceaseless erosion emphasises their character, wearing deep channels on its way; so that they appear like to some mysterious Eastern Temple architecture, or white palaces of dreams. It would almost seem that a submerged and ancient civilisation were at last emerging from its long sleep. Or had some disobedience, or revolt, shattered the life of which only the ruined walls, a shadowy twilight of the gods, now remain?

As pebbles are found on mountain tops, to apprise us that their heights were once submerged, so fancy, dwelling on these marvellous forms, suggests some mighty convulsion of nature must have transported them here. Anyhow, here is architecture designed by that "mistress architect," Nature herself. These natural features of the limestone cliffs might, I thought, if only subconsciously, have influenced the design of Eastern Temple architecture, seeing their forms suggest in so many particulars the influence of Nature. It might be worth while to inquire how far, as in the Western Ghats in India, at Mahabaleshwar and elsewhere where these limestone formations prevail, their influence had been felt by Far Eastern builders. Things take the colour of our mind, and the deepest impressions of nature come to those living most under her influence.

Structurally, these cliff formations conform to the primary laws of building and the resources they include for beautiful form and decoration. Descending from their pinnacled tops in roof and story, accented by the horizontal courses of black flint which stripe their walls, corbelled out here, enriched by turret, buttress, balcony and opening, they capture the imagination as the work of the gods themselves. I found myself constantly surveying these wondrous temples in stones; nor could I think there was anything gained to architecture by its sometime repudiation of Nature's influence. That which inspired the poet and painter, might it not also inspire architecture as well? Or was it only architecture that acknowledged no school or college, or any master, while all the time that great, neglected "mistress art" of Nature stood behind to fortify her claim? Or is architecture only pure thought?—has it nothing to do with Nature but only with thought? And the conclusion of Sir James Jeans occurred to me, that the mathematician's claim yields to a sense of the mind behind the universe. Might not architecture, in acceptance of something beyond itself, find that its "temples are not only made with hands"? I do not say they are so, but it is to Nature, not the historic orders, or to the "spirit of the age," that we must turn to recover again the freedom of the craftsman's hand, for out of the marriage of man with Nature the arts are born.



Limestone Cliff formations at Branscombe.
From a sketch by Mr. Reginald Hallward.

On one of these natural temples of the limestone cliffs I have ventured on a little restoration work, for which I rely on pardon from the S.P.A.B.—adding some further details and additions on my own account, as seemed further to fill in and express the intention, before its beauty was shattered. Taking care not to violate the geological characteristics of the cliffs' face, I have sought only to make suggestion a little more complete. What Nature began, I have ventured to carry a little farther, doing, in fact, a little mental excavation, which to my surprise revealed the cunning of the craftsman's hand in a wealth of ornament, gigantic sculpture and daring frieze.

Fancy read into these faint sculptures a subject-matter picturing a golden age, where, the beautiful directing, life was freed from force and law. Here was no hireling service, adaptable and yielding to a second best, nor was any "fall" recorded where Nature and mankind were thus united. But this was over, and my temple of dreams, yielding to the tide of erosion from above and the strangle of vegetation from below, was slowly fading. Amid such strange reflections I found that a wholly new direction for archæology was revealing itself, and that it was even possible my excavations were an invasion of the landlord's foreshore rights. Had I not captured more than any archæology in revealing behind the earliest civilisations the very soul of Nature herself? For fear, however, lest fancy should run away with me altogether, I have recorded some natural features of these limestone formations from my sketch-book, so that my reader can compare them with my own imaginative additions.

We hear much of the influence of materials on form and design, but the influence of Nature on both is no less to be regarded. When I look at a great cathedral such as Amiens, I find something of the vastness, silence and solemnity of Nature; the solitudes of mountain and valley, its play of ornament drawn from leaf and flower. Nature comes to inspire man, and a return to her is always what we need to get back to craftsmanship. Or is it that Nature is also ourselves, and, should we cease to feel these influences, are we but divided from ourselves? Yet I

doubt if there was ever a time when Nature meant so little for us, for where does this intimacy show in a new Regent-street; or is it the long course of the Industrial Revolution which crowded mankind into cities? The deepest causes would seem to reside in the changes of human outlook, in a narrowing of the perspective of life and of what we owe to it.

In speaking of the influence of Nature and of these rock formations, it is the general rather than any particular application to architecture that I have in mind. For it is not necessarily true that "he who drives fat oxen should himself be fat." The sources of beauty are too obscure to tie them to any single source. Yet these natural rock temples, shattered and half-concealed, hold more than a hint of the infinite suggestion of that great architect Nature, from whom we may also learn, as did, I feel sure, the builders of Eastern temples.

I am able to state here that there is no intention to restore these cliff temples and that they are not scheduled as an ancient monument. Besides, Nature, while she destroys, creates ever again, and we rely on her continuous inspiration—as we ought to on ours. But we are too prone, like Faust, to say of the hour, "stay, thou art fair"; and these cliffs remind us of the power of continuous achievement, that we cannot live on the past with eyes only in the back of our heads.

As my mind bored into these cliffs, their unobserved grandeur, the inward strength out of which they grew became symbolic of our own life. For how many centuries, regardless of the nature of man, had their wondrous forms been there, as though the best things were only matured in retreat. It seemed to me possible we were mistaken in seeking our work too much. Could we get back repose, we should rest more on ourselves, confident of the gift of life and what it offers us. Though there is a majesty in the fine, careless raptures of Nature, man has yet more to give, and the vast melancholy of so much of Western civilisation is that it cannot believe in the miracle, or that its temples are not built with hands. For the best does not fail us; it is we who fail the best, and Nature inspires us to dwell above such earth-bound conceptions.

I often think that to-day the impossible is the only thing that matters. It is supposed we cannot jump over our own shadows, yet that is precisely what we need to do. Our shadow is what prevents us, for it has robbed us of our confidence in life. The failure of democracy is that it has mistaken gregariousness for society, and the solitude of crowds, which can create a deeper one than any such within us—for safety. It cannot stand alone.

As I bade farewell to my cliffs a thought betrayed me: Is it all illusion? And I saw these rock temples, these aery palaces of dreams, on the cliffs of my beloved country, as a symbol of that reuniting of East and West which is the hope of the world. That East and West met in these great cliffs to remind us that all life is intrinsically the same, whether expressed in temple, church, or mosque, and that it was to free our lives for the new adventure that Nature came to our aid, in that both East and West met in those limestone cliffs, and that Nature once more directing us, we should again find "temples in stones and good in everything."

THE BRIGHTON AND HOVE TRAFFIC MERGER PLAN

Sir,—This scheme has now been abandoned and the Bill is dead, but the difficulties with which it was intended to cope have by no means been disposed of, neither have the risks incidental to the proposal been diminished. The illustrated article under the heading "The Future of Rottingdean," appeared opportunely on December 2, because a big meeting of the ratepayers had been convened for the 17th, and this publication as a protest, probably helped to influence the adverse vote of the electors at that Aquarium gathering. The Corporation was therefore obliged to hold a poll of the borough, and thus the measure was, last week, decided against by a considerable majority. All parties remain, however, more or less alive to the necessity of efficiently meeting the increasing needs of better facilities for motor transport throughout the main highways of these Downlands, including, of course, various cramped points in differing localities—particularly the crux, where the Regional South Coast-road junction happens at the lower extremity of the High-street of the unique village of Rottingdean, set at right angles with the county highway. Here close quarters are very awkward, set amidst two hills, east and west respectively.

The Brighton authorities ere long will have to deal with this obstructive and dangerous little area, and in all likelihood will alter it very much on the lines shown on my suggested plan published in your pages on December 19. If the hotel is allowed to stay its yard must be thrown into the thoroughfare to provide a better roundabout for the Brighton lanes to turn in.

I am assured by Mr. E. Guy Dawber, A.R.A., Vice-President of the Council for the Preservation of Rural England, that all possible help for this scheme for maintaining the charms and amenities of Rottingdean may be depended on. Also, I understand that this business is about to be placed before the Brighton Chamber of Commerce, affecting as it does the assets of the borough.

The correspondent who wrote in the splendid double number of *The Builder*, referred to Telscombe, as the crow flies close to Rottingdean, having a church designed by the same architect as that illustrated at Ovingdean, both towers being identical. Newhaven, a near neighbour, is also alluded to. That church, set on a hill, happens to be quite dissimilar to all Southdown types, being unique, with its apse built on to the tower, without any intermediate chancel; also having a broached spire corresponding almost precisely with the church at Yanville sur Seine, near Jumièges, in Normandy, well known as the sister church of Newhaven. Both are believed to have been erected by the same French architect in early Norman times. The accompanying sketches, made long ago, show both interior and exterior views. The nave is modern. I do not remember any illustrations of this picturesque building being given in *The Builder*. Piddinghoe, its immediate neighbour, is entirely different, with its round tower of flint work, and lofty octagonal spire. Freestone, scarce in Sussex and parts of East Anglia, necessitated the avoidance of quoins in rural parishes like these places.

Maurice B. Adams, F.R.I.B.A. (Retired.)

SISTER CHURCH TO YANVILLE SUR SEINE, JUMIÈGES NORMANDY

ROYAL COMMISSION ON TRANSPORT

The third and final report of the Royal Commission on Transport, dealing with the Co-ordination and Development of Transport, has been published by the Stationery Office [Cmd. 3751, price 4s.]. The report covers 240 pages. We give below a summary of the chief recommendations:—

Taking a broad survey of the highway system of to-day, the Commissioners make a strong recommendation that the activities of the Ministry of Transport and of the highway authorities should in future be concentrated on:—

(1) The complete reconstruction of many existing roads;
(2) The widening of roads;
(3) The improvement of road junctions and lines of sight;
(4) The construction of by-pass roads;
(5) The strengthening of weak bridges;
(6) The freeing of toll roads and bridges;
(7) The progressive reconstruction of built-up areas.

The Commissioners record their opinion as to the great importance of improving the highways from the aesthetic as well as from the material point of view. They realise that this matter has not been altogether overlooked, since a number of the new or improved highways possess dignity of alignment and an attractiveness which will be enhanced when the trees bordering them have achieved the growth which time alone will bring. Many of our bridges, too, are undoubtedly objects of beauty in their well-proportioned simplicity, but others are enduring monuments to lost opportunities. They sincerely trust that those who are responsible for highway improvements will keep constantly before them the need for preserving and adding to the beauty of the countryside.

Although they would not approve of the construction of a large number of new arterial roads, they regard the provision of by-pass roads in a very different light and recommend that the policy of constructing such roads should be actively pursued.

The Ministry of Transport, it is suggested, should formulate a special programme in regard to the strengthening of weak bridges; the programme should provide for the work to be done at the rate of not less than 1,000 bridges a year; special sums from the Road Fund should be definitely set aside for the purpose. Private ownership of all bridges carrying public highways should be abolished, and such bridges should be vested in the appropriate highway authority. A start should be made with those bridges which carry classified roads, and the process should be pressed forward with all practicable speed. The initiation of these transfers should normally rest with the highway authorities, but the Minister of Transport should be empowered to direct the transfer of any bridge or bridges should he be of opinion that such transfer is particularly desirable, or should he be dissatisfied with the rate at which transfers are taking place. They recommend that the provisions of the Bridges Act, 1929, should form the basis of these transactions.

Tramways, it is stated, if not an obsolete form of transport, are at all events in a state of obsolescence, and cause much unnecessary congestion and considerable unnecessary danger to the public. The Commissioners recommend, therefore (*a*) that no additional tramways should be constructed, and (*b*) that, though no definite time limit can be laid down, they should gradually disappear and give place to other forms of transport.

The Commissioners are of opinion that certain canals still possess considerable value as a means of transport, and that, properly rationalised and developed, they can be made to render much useful service to the community in the future.

THE CHARTERED SURVEYORS' INSTITUTION

RESTORATION OF ST. PAUL'S.

A PAPER on "St. Paul's" was read before this Institution on January 12 by Mr. J. E. Drower, C.B.E. After the Fire, said the lecturer, there was, at first, a question of rebuilding St. Paul's in the Gothic style, but the idea was abandoned. The Renaissance had swept away the decaying remains of Gothic art, philosophy, and literature in its triumphant and irresistible march. Gothic was an anachronism, and Classic took its place in architecture. So out of the ashes of the old building rose what has been called "the Parish Church of the Empire." Wren drew the inspiration for his design indirectly from ancient Rome, and directly from the great Italian and French architects of the Renaissance. His plan was Gothic; his construction sometimes was the same. To Wren, himself a fine mathematician, it was possible to calculate with something like accuracy the strains and stresses of his construction. His design showed what mathematicians call "an elegant"—that was, a completely satisfying solution of a difficult problem in statics.

We knew that Wren had set his mind upon a dome as the great and striking feature of his design, but it should be a dome different from any hitherto built, in that he wanted it crowned by a high lantern which would form a distinctive feature. And this lantern was no less than 88 ft. high and weighed 847 tons. The problem of carrying it conditioned the whole design of the the central structure. It could not be carried on the top of a masonry dome shaped as the actual dome is shaped, so by an inspiration Wren placed it on the apex of an 18 in. thick brick cone, under which he turned the inner dome which we see from the church floor. The joint-springing of these two domes rested on a wall slightly battering inwards and reaching down to the level of the Whispering Gallery. Between the base of the dome and the upright vertical wall surrounding it were 32 spandril walls serving as buttresses to the cone and supporting the plate of the oaken roof trusses, the weight of the roof being thus skilfully used to make the buttresses more effective. The battering inner wall would not be strong enough of itself to sustain the weight of the dome and cone and to react against their thrust. So outside it was built that wonderfully beautiful peristyle with its supporting drum, and a buttressing system of 32 radial members. Gothic had taught Wren something of buttressing, but he used his knowledge in his own way. When we saw the peristyle and drum rising majestically above the cathedral roofs we were not looking at the skeleton supporting the building, but at its clothing of beauty. Under all this system and carrying it all were the eight great arches surrounding the dome space themselves resting on eight piers and four bastions carried down to the foundations.

The foundations were dug, and the footings and the Crypt piers built of the old rubble. (This seemed not to have been very carefully cleaned; it was not coursed, and it gave one the impression of being rather a very coarse concrete, made in the French fashion, and with lime mortar; it was of all sorts of stone, even clunch having been found in it. At any rate, the voids were so well filled up with mortar as to make grouting in the manner successfully applied to the very loose rubble of Lincoln and Winchester unsuitable. One authority stated that the mortar was overlimed, and that would diminish its strength. It was not long before trouble arose, but this trouble seemed to have been anticipated, to some extent, at any rate, by Wren. The Crypt piers were built; those rising above the church floor were put in hand, and their whole weight was carried by the uncoursed rubble of the Crypt piers. As the weight piled up above the church floor, they had a "punching" action upon the piers below; the facing of the latter was pushed out, and Wren increased them in size by recasing. The settling of the Crypt piers seemed to have stopped, and the superstructure was proceeded with. And then the superstructure, owing to the drying out of the rubble, began to sink. None of these things seemed to have worried Wren very much. There was no quick-setting Portland cement in those days, and unequal settlement of rubble bedded in mortar was something that happened in every building. So they waited a bit until the mortar had set and then levelled up. (The Working Committee found that this levelling up was done systematically from stage to stage of the building.) In the masonry at the joint-springing of the cone and inner dome Wren put his great iron chain. It had been uncovered more than once, and was perfectly sound.

When the cry went up some 20 years ago that St. Paul's was in danger careful examination and measurements made by the surveyor to the fabric, Sir Mervyn Macartney, showed that many puzzling problems were involved in tracing the cause of defects which had appeared in the structure and in applying remedies. So the Dean and Chapter appointed a Commission to advise and report. Their first task was to see whether any partial or total tilt of the building had taken place since Wren did his last levelling up before the cone and dome were built. The instruments were set to work to find out any deviation from the vertical, and the result was written in four words in the Committee's report, "There is no deviation!" This discovery cleared the air; there was nothing wrong with the foundations. Working carefully and cautiously, studying their measurements with understanding, the Committee finally concluded that there were but two points needing attention, the soundness of the eight piers and the deformation and movement of the drum as deduced from their measurements. The ends of the piers facing inwards carried the greater part of the weight of the structure above them, and were built of fairly large and well-squared stones. But the sides were faced with quite thin Portland stone, rough at the back and badly bedded. The Portland stone casing was, for practical purposes, incompressible, but the uncoursed rubble of the core was not, so that the casing had to bear an undue share of the weight when the superincumbent load was placed on it; it could not give, and the core could and did give. The rubble filling contained no less than 60 per cent. of mortar, so that its weight-bearing capacity was not great. The Portland stone spalled and split. Wren and his successors were repairing it continually, and used a lot of iron cramps to tie back the casing to the core. Then these cramps rusted, burst the stone, and made matters worse. Over 1,000 of these cramps were removed during the restoration.

This was the state of affairs which Sir Mervyn Macartney inherited when he took office, and with which he and the Committee had to deal. They came to the conclusion that the cracks and crevices of the piers must be filled up by grouting, but that something more was wanted. The greater part of the weight rested on the inner ends or about two-fifths of the area of the pier. Of course, there was a spreading action which distributed the weight further down. In order to increase this spreading action, and so to utilise more of the pier, a system of horizontal reinforcement was decided upon. Holes were drilled traversing the piers in all directions, so as to make certain of crossing any cracks in the rubble. These holes were cleansed thoroughly in order to leave the cracks open, and very liquid cement-grout was pumped in at 50 lb. pressure. The cement set in the holes faster than it could get away into the cracks, so it was drilled out of the holes and pumped again; never less than twice, and sometimes even six times was this done before refusal point was reached; then rustless oval steel indented bars of sectional area equal to 1 square inch were pushed in and grouted around. Finally the defective Portland stone casing was renewed in proper mason fashion and tied to the core with rustless metal cramps. Looking at the piers now one could not detect the smallest sign of the laborious and delicate work which had been done to them. The piers were not yet done with. At Gallery level Wren had tied each pier to its bastion with four and a few feet higher up with two iron cramps. Electrical tests showed that these were broken; they were cut out, a most critical operation, and replaced by rustless steel rods, two to each bastion, being 4 in. and two 3 in. in diameter with anchor plates at the ends.

The work to the piers was finished, and now the problem of what was to be done with the drum had to be solved—a far harder and subtler problem. It was dealt with in a way which compelled admiration. The relations of the inner and outer walls of the dome and of the radial buttressing system between them were investigated. Two models were made to represent these in soft plaster one model showing the system properly bonded together and so acting as a whole as Wren intended, the other showing the inner and outer walls independently. These models had loads put on them to represent the dome and superstructure which had to be carried. The experiment showed that while the bonded model sustained the work without damage, the unbonded model failed and was crushed. Nothing could have shown in a more striking way the absolute necessity of keeping the buttressing system intact and with perfect bond to the inner and outer walls of the drum. The bond was not perfect, and the committee found the reason in two movements, one of which was due to the general settlement of the building during erection. This movement had caused cracks to appear in the drum walls and dislocation of the bond. It had stopped when the settling stopped, but the damage had not been put right satisfactorily. The committee dealt with it by inserting a series of 48 ties starting below the Whispering Gallery, running diagonally across the space between the inner and outer walls, and finishing outside under the peristyle paving. Any fear of independent action of the two drums was thus abolished.

But the other movement still continued, and would never stop; it was a much more subtle one, and the committee spared neither time nor labour in examining the records of their delicate instruments alanysing and explaining it. This movement was seasonal, it was greatest in summer and least in winter; moreover, the southern half of the drum was affected more than the northern, and that complicated matters. The effect of it was to push the drum out and increase its diameter slowly, very slowly, but very surely. The annual maximum movement is about one-sixteenth of an inch. This went back with the winter cold almost to starting point, but not quite by a minute fraction. The committee knew that it would be useless, perhaps worse than useless, to attempt to restrain the natural movements resulting from temperature changes, but that the cumulative gravitational effect could and should be arrested. So they devised and carried out a system of metal hooping, consisting of two chain belts encircling the outer drum, the lower being partly let into the stone of the base wall. When the heat of the summer lengthened the diameter of the dome towards the south, the band would equally expand, but there was no gravitational effect, for the winter cooling would contract it back to the original position and pull the drum with it.

An Artist's Estate.

Mr. Ellis William Roberts (69), of Lowndes-square, S.W., and Wandsworth Common, S.W., a member of the Royal Society of Portrait Painters, and an Associate of the Royal Cambrian Academy (net personalty £11,646), left £12,732.

ROYAL INSTITUTE OF BRITISH ARCHITECTS

At a council meeting of the R.I.B.A. held on Monday, January 5, the following members were elected :—

As Hon. Associates.

Rudolf J. Dircks.
The Rt. Hon. Sir Leslie Scott, K.C.

As Fellows.

S. F. Bestow.
J. A. Davidson.
G. A. Gale.
A. G. Henderson.
G. W. Home.
Major T. C. Howitt.
S. Knight.
M. D. Robertson.
A. Scott, M.B.E.
Major A. L. Abbott.
A. E. Barnes.
J. W. English.
H. W. Ford.
S. Philpot.

As Associates.

M. J. H. Cowie.
Evelyn Freeth.
S. W. Kelly.
C. St. C. E. Oakes.
S. P. E. Soper.

As Licentiates.

F. W. Andrews.
D. W. Asman.
G. B. Baird.
T. E. Bell.
T. P. Bell.
H. Bewick.
R. A. Boyle.
P. G. Bridge.
S. Brinton.
J. W. Broughton.
P. K. Brown.
R. A. Buck.
C. J. Burnett.
W. Butler.
J. W. Cabre.
R. Campbell.
R. Carruthers-Ballantyne.
C. Cayley.
J. F. H. Checkley.
C. M. Cornish.
C. W. Crush.
R. Dobson.
A. Douglas.
F. C. Ellis.
A. H. Fennell.
D. C. Fidler.
C. Fifield.
L. B. Frank.
C. W. Glover.
J. M. Gornall.
E. R. Grieve.
E. S. Hartley.
J. Hartley.
F. W. Harvey.
E. Hayman.
J. E. Hellewell.
A. G. Henderson.
L. E. Hetherington.
G. Hines.
C. E. Horsfall.
F. Johnson.
D. M. Mackie.
H. S. McNair.
A. J. Marston.
A. J. Margetson.
Lt.-Col. M. K. Matthews.
A. W. B. Messenger.
W. Morton.
R. H. Mozley.
W. K. Munro.
R. Oakley.
R. E. Oliver.
H. Oswald.
N. F. Pearce.
F. R. Pennell.
H. C. Pettett.
R. W. Panting.
C. W. Reeves.
W. Riddle.
F. Riley.
E. S. Roberts.
H. E. Robertson.
P. R. H. Satchwell.
G. B. Selleck.
H. T. Seward.
J. E. Shaw.
N. B. Shaw.
H. Silverston.
A. W. B. Simpson.
S. N. Slipper.
A. Smellie.
R. V. Smith.
R. Stevens.
W. F. T. Stewart.
H. G. Tilley.
E. G. Timbrell.
F. Wager.
F. J. Watson-Hart.
F. M. Webster.
H. Welburn.
A. C. S. Wheeler.
R. A. Winder.

Intermediate Examination, November, 1930.

The R.I.B.A. Intermediate Examination qualifying for election as Student R.I.B.A. was held in London from November 21 to 27, and in Manchester, Newcastle and Edinburgh from November 21 to 26, 1930. Of the 200 candidates examined, 96 passed and 104 were relegated. The successful candidates are as follow :—

J. S. Adams.
H. Alcock.
D. W. Aldred.
A. J. Arlin.
C. Bacon.
T. Barrett.
A. Bastiforth.
A. J. Barton.
S. Bentley.
C. S. Bott.
G. A. Boden.
J. W. Calton.
D. Chamberlain.
J. N. Coleman.
E. C. Conner.
H. Cusworth.
A. J. Dack.
R. Dawes.
F. H. Dicks.
A. Dimlin.
L. S. Dyer.
S. Dyer.
R. C. Edleston.
W. E. Edwards.
R. G. W. Edwards.
P. W. Edwards.
A. L. Everest.
G. F. C. Eyre.
R. E. Farmiloe.
L. H. A. Fleetwood.
M. Foreman.
W. E. Fowler.
E. E. Fowlers.
C. Gingell.
E. S. Godsell.
A. G. Goodair.
H. N. Haddock.
S. M. Haines.
D. R. Hall.
A. J. Hardcastle.
H. Harding.
J. R. K. Harrison.
H. J. Harvey.
F. L. Holder.
F. K. Hood.
G. A. Henry.
F. A. Howlin.
J. J. Hill.
R. G. V. Hives.
I. S. Hodgson.
J. L. Hope.
W. Ingham.
H. S. Jarrett.
C. P. Johnson.
A. H. D. Jones.
D. A. Jones.
J. R. Jones.
C. M. G. Keeping.
A. S. Kemp.
K. R. Lack.
C. L. Lister.
A. A. Macfarlane.
S. C. Mason.
H. V. Mellor.
L. W. Millard.
K. C. Moore.
T. R. Moore.
D. C. Morrison.
R. G. Moseley.
C. A. W. Neil.
R. W. J. Olley.
G. Owen.
L. R. Penman.
R. J. Potter.
G. E. Pomeroy.
R. F. Ratcliffe.
J. G. Reid.
K. C. Reid.
M. S. Richardson.
W. A. Roberts.
D. L. Robertson.
S. E. Robins.
A. Saint.
W. H. Sanderson.
E. C. Schearer.
W. J. Scott.
G. E. Scribby.
J. Sutton.
K. F. Templeman.
R. W. Thomas.
H. Walker.
P. A. Watson.
W. I. Watson.
H. Williams.
A. E. Wood.
P. Woodcock.

The Final Examination.

The Final Examination qualifying for candidature as Associate R.I.B.A. was held in London and Edinburgh from December 3 to 11, 1930. Of the 85 candidates examined, 45 passed (four in part I only), and 40 were relegated. The successful candidates are as follow :—

J. N. Aylwin.
N. Best.
G. H. Bond.
G. E. Bowden.
C. C. Bowring.
C. A. Caven.
S. D. N. Clake (*Part I only*).
E. J. Cunliffe.
F. W. Dark.
E. A. E. Evans.
A. J. Fowles.
F. G. Frizzell.
A. H. Gale.
Margaret Gillett.
A. N. Goddard.
E. J. Hartland.
G. Hemm.
J. W. Hills (*Distinction in Thesis*).
W. E. Humphrey.
W. T. Jackson.
H. L. Kelly.
R. B. Lewis.
R. G. Lindsay (*Part I only*).
C. E. McLean.
D. H. McMorran.
J. Maitland.
T. L. Marshall.
H. L. Mead (*Distinction in Thesis*).
G. B. Mhatre.
C. R. Millington.
J. W. Oatley.
A. G. R. Payton.
S. P. Sartain.
V. C. L. Saunders.
J. A. Schofield.
L. B. Smith.
T. W. Thomas.
W. Thompson.
C. R. Tuner (*Part I only*).
P. O. G. Wakeham.
E. J. White.
F. S. Wilbond.
D. A. Wilkie.
R. H. Wright (*Part I only*).
A. Writer.

The Special Examination.

The Special Examination qualifying for candidature as Associate R.I.B.A. was held in London from December 3 to 9, and in Edinburgh from December 3 to 11, 1930. Of the 25 candidates examined, 7 passed and 18 were relegated. The successful candidates are as follow :—

R. E. Angles.
T. Brown.
E. Holman.
R. A. McLean.
F. Marsden.
H. D. Williams.
W. Worrall.

The Examination in Professional Practice for Students of Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination.

The Examination was held in London and Edinburgh on December 9 and 11, 1930. Of the 50 candidates examined, 33 passed and 17 were relegated. The successful candidates are as follow :—

Norah Allen.
Hilary Archer.
Isabel H.S.K. Beattie.
L. L. Brown.
Eileen EgComber.
C. V. Dawburn.
F. J. Doran.
Evelyn Drury.
M. S. Green.
C. C. Handleyde.
D. G. Hardie.
H. Hawson (Junior).
M. E. Herman.
G. Kenyon.
D. C. McDonald.
R. G. Madeley.
Edna M. I. Mills.
Marian Minns.
E. Murray.
Dorothy M. Norie.
H. Owen.
I. F. E. Richards.
T. H. Rogers.
J. K. M. Sanderson.
G. S. Shand.
R. D. Steel.
D. S. Taylor.
W. R. H. Taylor.
H. R. Thompson.
C. R. Turner.
Eugenie D. Ullmann.
D. E. Ward
H. W. Whiteman.

Council Minutes.

Following are notes from the minutes of the Council for December 1, 1930 :—

Examinations.

The following results were reported to the Council :—

(*a*) The Summer Examinations, 1930.

R.I.B.A. Intermediate Examination, June, 1930 :—Examined, 187; passed, 80; relegated, 107; percentage passed, 43.

R.I.B.A. Final Examination, July, 1930.—Examined, 99; passed, 38 (and 8 Part I only); relegated, 53; percentage passed, 46.

R.I.B.A. Special Examination, July, 1930.—Examined, 22; passed, 10 (and one Part I only); relegated, 11; percentage passed, 50.

R.I.B.A. Examination in Professional Practice for Students of Recognised Schools of Architecture, July, 1930.—Examined, 53; passed, 30; relegated, 13; percentage passed, 70.

(*b*) R.I.B.A. Examinations Overseas.

Final Examination, Johannesburg, South Africa, November, 1929.—Examined, 2; passed, 1; relegated, 1; percentage passed, 50.

Examination in Professional Practice, Perth, Western Australia, March, 1930.—Examined, 1; passed, 1; relegated, 0; percentage passed, 100.

The Final Examination Thesis Examiners (Honorary).—Mr. P. W. Barnett, A.R.I.B.A., was appointed as a Thesis Examiner.

Schools.—On the recommendations of the Board of Architectural Education the following decisions were made :—

(*a*) *School of Architecture, University College, Dublin.*—That the five years' Degree course be recognised for exemption from the R.I.B.A. Intermediate Examination.

(*b*) *School of Architecture, Leicester.*—That the recognition of the three-years' full-time day course for exemption from the R.I.B.A. Intermediate Examination be continued.

(*c*) *Department of Architecture, Northern Polytechnic, London.*—That the recognition of the three-years' full-time day course for exemption from the R.I.B.A. Intermediate Examination be continued, and that the condition whereby those students who only obtained a third-class pass in the Third Year Final Examination are not eligible for the exemption be abolished.

(*d*) *School of Architecture, University of Cambridge.*—That the condition whereby third-class ordinary Degree students are excluded from exemption from the R.I.B.A. Intermediate Examination be abolished, and that third-class ordinary Degree students be eligible for exemption in the same way as students obtaining first- and second-class Degrees.

(*e*) *School of Architecture, Plymouth Central School of Arts and Crafts.*—That this School be recognised for exemption from the Testimonies of Study for the R.I.B.A. Intermediate Examination.

Exhibition of Designs of Students exempted from the R.I.B.A. Final Examination.—(1) The Board reported that they found the general standard satisfactory; (2) On the recommendation of the Board the R.I.B.A. Silver Medal and £5 in books for Recognised Schools was awarded to Mr. J. V. Nabe (A.A.).

Exhibition of Designs of Students exempted from the R.I.B.A. Intermediate Examination.—(1) The Board reported that they found the general standard satisfactory; (2) On the recommendation of the Board the R.I.B.A. Bronze Medal and £5 in books were awarded to Mr. R. P. S. Hubbard (Liverpool School of Architecture), and a certificate of hon. mention was awarded to Mr. J. E. Moore (Department of Architecture, the Northern Polytechnic).

R.I.B.A. Prizes and Studentships.

On the recommendation of the Board it was decided that the following competitions be open to registered Students of the R.I.B.A. Allied Societies in the Dominions: The Soane Medallion, the Victory Scholarship, the Owen Jones Studentship, the Silver Medal for Essays, the Henry Saxon Snell Prize, the Alfred Bossom Travelling Studentship, the Grissell Prize, the Neale Bursary, the Hunt Bursary, the Godwin and Wimperis Bursary.

R.I.B.A. (Archibald Dawnay) Scholarships, 1930-1931.—The Board reported that the following awards had been made :—

(*a*) First Years or Scholarships.—(1) An R.I.B.A. (Archibald Dawnay) Scholarship of £75 for the year 1930-1931 to Mr. J. A. Pinckheard (Department of Architecture, Surveying and Building, the Northern Polytechnic); (2) An R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1930-1931 to Mr. Arthur Roberts (Liverpool School of Architecture, Univ. of Liverpool).

(*b*) Second Years or Scholarships.—Mr. F. J. M. Ormrod (Liverpool School of Architecture, University of Liverpool) who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £75 for the year 1930-1931; Mr. J. P. Ward (Welsh School of Architecture, Technical College, Cardiff), who was awarded an R.I.B.A. (Archibald Dawnay) Scholarship of £50 for the year 1930-1931.

(*c*) Last Instalments or Second-Inst Scholarship Monies.—Mr. L. A. Chacksfield (Birmingham School of Architecture); Mr. John Hughes (Liverpool School of Architecture, University of Liverpool).

[This list will be concluded next week.]

INSTITUTION OF STRUCTURAL ENGINEERS

Annual Dinner.

THE annual dinner of the Institution of Structural Engineers was held at the May Fair Hotel, W.1, on Friday, January 9, Mr. R. H. Harry Stanger (President) presiding over a gathering of 450. Among those present were the following:—Sir Edwin Airey, Sir Francis Goodenough, Sir Clement Hindley, Sir George Humphreys, Sir Henry Tanner, Sir Wm. Larke, Dr. R. E. Stradling, Dr. Raymond Unwin, Dr. Oscar Faber, and Messrs. Ewart S. Andrews, Arthur Blomfield, A. C. Bossom, Lt.-Col. C. H. Bressey, J. F. Butler, C. S. Chettoe, H. J. Collins, Brig.-Gen. A. C. Critchley, S. J. Davies, H. J. Deane, M. A. Dixon, Major M. Du-Plat Taylor, A. H. Dykes, Joseph Emberton, G. Topham Forrest, G. McLean Gibson, Douglas Green, Hal Gutteridge, J. H. Jameson, C. J. Kavanagh, The Hon. Roland Kitson, V. H. Lawton, J. Leathart, Ll. S. Lloyd, Maj. R. F. Maitland (Secretary), E. Beauden Miller, Major E. C. P. Monson, H. Greville Montgomery, N. Brinton Murgatroyd, E. J. Rimmer, T. J. Rushton, Maj. W. E. Watson, and Maurice F. G. Wilson. Many ladies were present.

After the customary loyal toasts had been proposed by the Chairman and duly honoured,

Sir Clement D. M. Hindley, proposing the toast of "The Institution of Structural Engineers," said there was probably nothing of greater importance to that Institution than a movement which would tend to establish professional practice in regard to steel structures on a firm and unassailable scientific basis. There would always be some natural conflict between practice and theory and between "rule of thumb" and "rule of science." In any controversy between a scientist and the practical man, the scientist would probably have recourse to the time-honoured statement that "a practical man is one who repeats and perpetuates the errors of his forefathers." It would be unfair to apply this to engineers who, as a class, were perhaps of all professional men those most adaptable to new lines of scientific thought.

But without wishing to draw any unfair comparisons it seemed to him that engineers who were engaged in the design and construction of steel structures had not, perhaps, in the past taken so much advantage of research as some other branches of the profession. One might point to the fact that in the whole realm of structural design the only really great advances in recent times had been made in bridgework and in aeroplane and airship construction. In those cases research had borne a great part, and there was no doubt, for instance, that the work of Sir Alfred Ewing's Bridge Stress Committee had had an important influence on the design of bridges. Was it not a fact that many problems of steel structure design were becoming increasingly difficult to solve, because the methods which were used were based on the consideration of static conditions? Methods of stress analysis, on which designs were built up, tended to follow the assumption that the problem was a static one and a more or less empirical factor was added to cover the unknown dynamic stresses. It was probable that little progress could be made until research had shown what was the real character of these dynamic factors and how they were to be allowed for in design.

In that Institution engineers and architects met together to discuss the problems of structures as seen through the spectacles of their two separate and distinct professions. In all ages there had been some separation in their functions, and it might be said some rivalry and perhaps worse. But those ages had been most fruitful in the production of structural work when the engineer and the architect had worked together in harmony, when the architect had listened to the voice of science and the engineer had opened his eyes to æsthetic considerations. The fusion of interests, of knowledge, and of experience which that Institution facilitated and the opportunities which it afforded for mutual discussion and study, must surely be of great value in the future and of great individual benefit to the members. And not only had the Institution gathered together in one fold engineers and architects, but it also welcomed scientists, teachers and research workers, as well as those connected with the execution of constructional work by contract. Perhaps there could be no better evidence of the catholicity of its embrace than the fact that it was presided over by Mr. Stanger, the distinguished authority on chemical analysis of building materials, who was renowned for his valuable work on the testing of concrete. Through its own committees, and its representation on many other committees and bodies engaged in scientific work the Institution was in a position to make a valuable contribution to the development and progress which were so necessary in building work generally. He would specially mention and acknowledge the work being done by no fewer than six of the members of the Institution out of the eighteen who comprised the Steel Structures Research Committee. There was also the important work which was done continuously by committees of that Institution in collaboration with the British Engineering Standards Association, a body which, by reason of its wide and representative membership, occupied a position of very great influence on all engineering practice.

It was a striking fact that in America, where wages were from three to five times the wages in this country, the study of economy in building construction, both in design and erection, had brought down costs to within a small margin of the costs in this country. We were so far only at the beginning of a great change which must be made in the whole of our methods. There was an enormous field of work to be covered and a long struggle to face before we could free ourselves from the trammels of old tradition. It was no exaggeration to say that the future prosperity of the building industry depended on the effort which could now be put forward to modernise methods, both of design and construction, and to bring practice into conformity with scientific knowledge. And not the building industry alone, but the steel industry, the cement industry, and all other industries which depended on it and on which it depended, must be roped in in this great effort to secure greater economy and efficiency than had been possible in the past.

The President, responding, said in the past year a great movement had taken place, not only to bring building methods up to date but also to bring the laws of public control of building equally up to date. The first had culminated in the formation by the Department of Scientific and Industrial Research, presided over by Sir Clement Hindley; and the second in the Technical and Economic Advisory Council formed under the auspices of the R.I.B.A. And it was right that the Institution should be in close touch with both of these bodies, for it now had some 3,500 members who were engaged in the design, planning and construction of static structures. Amongst their ranks they had professional engineers and architects, research workers, steelwork constructors, cement manufacturers and building contractors. In fact, they might well call themselves the liaison institution for all those who planned and all those who executed buildings. Within their limits they had endeavoured through their technical committees to assist the building industry by publishing various reports and recommendations on matters connected with steelwork and reinforced concrete work, and it was a source of considerable satisfaction to feel that their recommendations had been accepted by a number of municipal authorities. On behalf of the Institution he could promise Sir Clement Hindley their whole-hearted support in the work of his committee, as this touched so closely on the life work of every one of their members, whether engineer or architect, research worker or constructor. That was not the time or the place in which to give a close history of the work of the Institution in the past year, but he would like to mention that the Liege Congress and the meeting of the International Association of Road Congresses at Washington, at which the Institution was represented, had proved how useful such channels were for the sharing of experience and the advancement of modern research. Despite depression they had inaugurated a new branch of the Institution in no less a place than South Wales, so that they now had seven branches in the British Isles. With increasing membership, not only in this country but also overseas, was there any reason why they should not open branches throughout the British Dominions? In this way, through bringing together members of those professions and callings which were specially connected with structural work, it was their hope that every structural engineer should sympathetically envisage the aims of the architect who clothed the engineering structure, and that every architect should be conversant with the aims and difficulties of the structural engineer.

The toast of "Our Guests" was proposed by Major A. H. S. Waters (Vice-President of the Institution) in a humorous speech, to which Capt. J. F. C. Bennett (Mayor of Westminster) suitably responded.

OBITUARY

RAVENSCROFT ELSEY SMITH, F.R.I.B.A.

We regret to record the death on December 26 of Professor R. Elsey Smith. Born at Forest Hill, London, in 1859, deceased was the son of the late Thomas Roger Smith, Professor of Architecture at University College, London, and Master of the Carpenters' Company. Educated at Mill Hill School (where he was gold medallist for the English Essay) and at University College, London, he was articled to Mr. E. J. Tarver, and entered Sir Alfred Waterhouse's office as improver. He joined his father in architectural practice, and was elected a Fellow of the Royal Institute of British Architects. He obtained the Institute Medal in 1887 and the Institute's Greek Travelling Studentship in 1888. He spent a year travelling in Italy, and was engaged under Mr. Hogath in archæological excavations in Cyprus and for the British School in Athens. In 1900 he was appointed Professor of Architecture at King's College, London, and when in 1913 the Architectural School of the University of London was consolidated into one Chair at University College, he held that Chair jointly with Professor Simpson from 1913 to 1920.

He was one of the district surveyors under the London Building Act for the Wandsworth district, and later he was appointed district surveyor for the Borough of Shoreditch until his retirement, with others, under a modification of the original terms. He then returned to private practice and during his partnership with his father until the latter's death, and subsequently by himself, he was responsible for the carrying out of public buildings, factories and private houses. These works included additions to University College, London; Mount Vernon Hospital, Hampstead; and baths and institute on the Stratford estate of the Carpenters' Company.

He was made a Freeman and Liveryman of the Carpenters' Company in 1890, and was elected a junior warden in 1929 and a senior warden in 1930. Subject to his election he would, had he lived, have become Master of the Company in 1931. He was chairman of the Board of Examiners of the Carpenters' Company for nine years.

An ardent volunteer, he held for many years the commission of captain in the old Bloomsbury Rifles. At Horsell, Woking, where he lived and died on December 26 last, in the house he had built for himself, he was for many years a churchwarden of the parish church. In 1904 he married Ida, daughter of the late Mr. John Harris, who survives him.

BUILDING REGULATIONS AND BY-LAWS—II

By W. T. CRESWELL, Barrister-at-Law.

In our last article we endeavoured to show that a by-law must be certain, determinable and reasonable, and that a by-law once made cannot be waived or dispensed with even by the authority making it, unless the clauses of the by-law itself, or the Act under which it is made, define certain circumstances in which such dispensing powers or discretion may be exercised. (See, for instance, section 184 (2) of the London Building Act, 1930.)

Nevertheless, the opinion has often been expressed that it should be possible to relax by-laws as time and unforeseen circumstances develop. In Salt *v.* Scott-Hall (1903), 2 K.B. 245, when a stringent by-law made by a rural authority which allowed of no relaxation by that authority was being discussed, Channell J. expressed the opinion that *all* by-laws as to buildings ought to have in them something giving the authority concerned power to say that their hard and fast rules should not apply to particular cases which might arise. The Local Government Board (now the Ministry of Health) were aware of these observations when they stated, about this time, that in their opinion by-laws, which are enforceable by penalties, should be framed in such a way as to prescribe definite requirements, as far as practicable, for every particular state of circumstances to which the by-laws are intended to apply. The Board further stated that although there might arise individual cases in which a dispensing power might be considered useful, yet they felt that the reservation to local authorities of a *general* power of relaxing at will the provisions of their by-laws would inevitably lead to difficulties more serious than the absence of such power already produced, or was likely to produce, and that they considered that the observations of the learned judge above referred to are sufficiently met by section 1 of the Probation of Offenders Act, 1907, viz., that an authority is not compelled to take proceedings in a case where they have reason to consider that the Act has been infringed if they have reason to foresee that on taking such proceedings the action is likely to be dismissed by the justices.

In passing, it is well to recall the powers given to the Minister of Health under the Housing Acts, and the regulations made thereunder which authorise the temporary relaxation of, and the revoking of, building by-laws and by-laws relating to the laying out and construction of new streets, in instances where the Minister should be satisfied that the enforcement of those by-laws would be an impediment to building in the interests of the public or the legitimate enterprise of persons. These powers were extended (by the Expiring Laws Continuance Acts) to the end of 1928, and any consents given prior to the end of 1928 still hold good.

We have previously stated that a by-law must not be *repugnant* to the general law of the land. A by-law must not alter expressly or by necessary implication the general law by making that lawful which the general law makes unlawful, and that unlawful which the general law makes lawful. A by-law may, however, supplement the general law in dealing with something which is not specifically dealt with by the general law, and yet not be in any way repugnant to it. So that a by-law may be more stringent than a statute and still not be repugnant to it; but where a statute imposes a definite penalty for a given offence, that penalty cannot be increased or decreased by a by-law. Obviously that would be unconstitutional.

A by-law must be *certain*; that is to say, it must contain adequate information for those whose duty it is to obey and enforce it, and it must be made so clear in its terms that all whom it may concern may know what it requires to be done, or not to be done, by them.

A by-law must be *construed benevolently*. If it is capable of two constructions, one of which is good and the other bad, the former must prevail; although a by-law void in part is void altogether unless the void part can clearly be separated from that which is good, when the part that is good may be enforced independently of the other.

A by-law must be *reasonable*, and for the purpose of determining its reasonableness regard must be had to its fairness towards the persons affected by it. But a by-law is not necessarily invalid because an individual cannot comply with its requirements. In Simmons *v.* Mulling R.D.C. (1857), 2 Q.B. 433, the district council made a by-law prohibiting the construction of cesspools at a less distance than 50 ft. from a dwelling-house. The owner of an old cesspool had filled it in, and *constructed a new one* placed within 17 ft. of his house (this being the extreme limit of his premises). It was held that the by-law was not unreasonable in the part requiring a distance of 50 ft. as the limit fixed by it, and that it was not invalid because the owner of these particular premises was prevented, by the extent of his space, from complying with it, and that, the authority had no responsibility for his losses, there being no obligation imposed upon him by the by-law to move his old cesspool and to construct a new one. Of course, the authority could not have interfered with the old cesspool.

THE LATE FREDERIC COLEMAN

We deeply regret to record the sudden death, on Monday night, of Mr. Frederic Coleman. He was taken ill with a stroke soon after 6 o'clock and died a few hours later. He would have been fifty-five years old on January 22.

The news will come as a great shock to his many friends in the building world and elsewhere, for by his death one of the most vital and characteristic figures in the industry has been removed. Frederic Coleman was born in Grenell, Ohio, in 1876. Educated at Oberlin College, Ohio, he drifted to San Francisco, where he joined the staff of the *San Francisco Examiner*, and so gained his first footing in journalism, a calling which was always a ruling passion of his life and for which he never lost his love. But the call of adventure was strong in him. He joined the American Army and saw two years' service in the Philippine War. From there, back to journalism, the Boxer rising saw him as War Correspondent in China for the London Press. About 1901 he came to England, and made straight for Fleet-street, where he joined the *Daily Mail*. At one time he was associated with the White Steam Car Company, acting as the European representative of the American company. With the development and perfection of the internal-combustion engine, Coleman next became associated with the petrol-driven car business.

Then came the War. He at once offered his services to the British War Office, and was employed as a driver attached to the British Army Headquarters under General de Lisle. Later he made two trips round the world, lecturing for the British Government on War subjects. In between his duties he found time to write two books, "Mons to Ypres with French" and "With Cavalry in 1915."

In 1919 he started a connection with the building industry which was never severed. His initial venture was in white cement, which up to that time had never been adequately marketed in this country. Here the innate "news" sense of the journalist came to his aid. Though he felt he had a good thing, he saw no reason for marketing it in a dull fashion. Always, in his business transactions and in his advertising "copy" (with which every reader of *The Builder* is familiar), he endeavoured to throw light from a new angle upon his subject. Therein lay his success. He was one of the original members of the new Royal Automobile Club, a member also of the American Club, and a Fellow of the Royal Geographical Society.

Of the man himself, there is no need to speak. Friends in many walks of life knew him in many lights, but all as a wise, a humorous and an amazingly well-informed man, and a fascinating and stimulating conversationalist. The whole industry will join in expressing great sympathy to his widow and also to a very loyal and devoted staff which carries on his business after him.

The Adamite Company informs us that the company's business will be carried on by the remaining directors, who have been with Mr. Coleman since the inception of the business. Under their direction, the staff will continue to conduct the business along the lines laid down by Mr. Coleman. At the same time, the directors wish to convey their thanks and appreciation for the kind messages of sympathy which have come from every side.

INQUIRY BUREAU

The Subsidy.

Sir,—With reference to the report of the Ministry of Health, referred to on page 708 of *The Builder* for October 24, 1930, I shall be obliged if you will tell me whether the assistance given for subsidy houses, the £7 10s. from the Ministry of Health and the £3 15s. from the local rates, is paid to public utility societies and to private builders in order to reduce rents to the normal rent for the same class of house, parlour or non-parlour. S. W.

[The £7 10s. from the Ministry of Health is paid to public utility societies and to private builders subject to certain conditions, which can be found in section 32 of the Housing (Financial Provisions) Act, 1924. The £3 15s. from the local rates depends on the various local authorities.—Ed.]

Composition Flooring.

[Reply to "F. D.," December 26.]

Sir,—Pugging has sometimes accentuated the liability to dry rot, as in a job I am at present interested in, but the main cause appears to be lack of air circulation, or rather the presence of stagnant air between the boards and the pugging materials. It is claimed that if the boards are actually in contact with either the pugging mortar mixture, or with some other better plastic or mastic laid on top of it and under the boards, so that no air whatever can have contact with the underneath of board surfaces, that dry rot does not so readily show, if at all. But it is admitted that pugging will increase the tendency to dry rot where such tendency and conditions exist, unless means are taken to ventilate the cavity and cause fresh air currents to circulate, or unless the total absence of air here is secured in some such way, as by using mastics. W. Pattison.

Restoring Oak Chancel Screen.

Sir,—A portion of an old oak, finely carved chancel screen has been stained with some dark oak stain with the object of introducing "the Jacobean touch." I wish to restore this to its old glory of aged silver grey, and I think an application of hot stiff fresh lime might do this without lifting the grain of the wood, and would impart that silver grey tone so much admired in the stalls at Liverpool Cathedral. Will this do so?

Cecil A. Sharp.

THE BUILDING TRADE

ESSAYS ON BUILDING PRACTICE—III

By J. R. TAYLOR.

THE ESTIMATOR'S DIFFICULTIES

(*Continued*).

At the annual dinner of Chartered Quantity Surveyors (reported in *The Builder*, December 19, 1930), Mr. Drower, presiding, made some significant remarks, to which it is pertinent to direct the attention of others besides the surveyors to whom they were immediately addressed. He stated that nothing was so marked as the change that had come over the relationship between employer and employed in their readiness to acknowledge the mutuality of the arrangements between contracting parties. In the relations between architect, building owner, and contractor he found that this spirit was active though "not always reflected in the contract documents," and that as a result the quantity surveyor was becoming "more and more arbitral and of increasing importance as holding the balance true between two interests."

As a companion to this pronouncement I venture to quote an axiom laid down by an eminent jurist, who said: "Not only must justice be done but it must appear to be done."

That justice should not only be done but appear to be done is an ideal that can only be reached when the mutuality of contractural relationship is reflected in the contract documents, and it is probably true that nobody can do so much to bring this about as the chartered surveyors. They at present enjoy an almost unique position of trust. But when called upon to act in an arbitral position the surveyor may find himself compelled to act on the letter rather than the spirit of the law because of binding clauses laid down without any thought that circumstances might operate in such a way as to demand that they take full effect.

All this has a bearing on estimating, and adds to the estimator's difficulties. Experience has taught him that the architect will not usually proceed to extremities except under aggravated circumstances; and he is comforted by the knowledge that provided an honest effort is made to carry out the work properly he may safely leave the settlement to the surveyor. But should the surveyor himself also omit to "appear" to do justice by additional unnecessary penal clauses incorporated in the bills of quantities, faith may wane. In this connection it is as well to omit any specific name in the Arbitration Clause, so that should necessity unfortunately arise the appointment of an arbitrator will rest with the President of the R.I.B.A.

Provisional and P.C. Sums.

In former times these sums bore a trade discount which belonged to the builder, and probably had it not been for unscrupulous abuses by some few of them this valuable concession would not have been lost. Not only has the builder's position been worsened by reason of this, but there is a distinct tendency to harden his lot. With the advent of the specialist the proportion of provisional sums to the contract total has steadily increased, until in many cases it now reaches as high as 50 per cent. of the whole sum to be earned. To put it another way, it is not unusual for the builder to be made responsible for the whole work while depriving him of effective control in regard to half of it. The effects of the various clauses governing this matter are very far-reaching because an absolute financial responsibility is fixed upon the builder in most cases, together with a final responsibility under the maintenance clause. As long as the building owner remains solvent the builder does not run much risk under the first, but he is occasionally badly hit by the second. A specialist who has completed and been paid for his work will usually rectify any defect proved to be inherent in it, but is frequently reluctant to accept responsibility for consequential damages. But even assuming that the specialist does accept all the consequences of failure, this seldom puts the builder right in the eyes of an enraged client not conversant with such matters.

The estimator, however, is faced with several other difficulties with regard to provisional and/or p.c. sums. Where competition is at all keen it is seldom that he dare accept the surveyor's invitation to "add profit desired." But this is not the end of it. He frequently finds a long list of other stipulations with regard to these sums put in such a way that it is impossible to attach an accurate price. I will take as illustration a gross case.

Tenders were invited for a very large job, and the provisional and p.c. items in the quantities much exceeded £30,000. They included dressed stone, heating apparatus, plumbing, electric lighting, wall and floor tiling and a whole host of other things that would take too much space to enumerate. The job was in a country district, some distance from a small town and outside the railway company's delivery area. The estimator under general clauses was called upon to price the following items:—

"For p.c. amounts, add for packing, carriage, cartage, storage, checking, return of empties, provision of all material and labour for fixing and protection against damage. [This without any particulars of place of origin or sufficient information on other points on which to found even a good guess.]

"For provisional amounts, add for attending on specialists, provide use of plant, leave up scaffolding until permission given for removal (without number, size or weights given, except in the case of the stone); cart from station, check, store, be responsible for safety; allow use of workshops; give use of job telephone, paying all charges; provide water and artificial light; pay on certificate; maintain."

This was a gross case, though I have known worse; as well, of course, as much better information to be given to the estimator. But the whole point is that in respect of these matters he should be provided with the most precise information possible, particularly when, as so often happens, his estimate has to be made up at all too short notice. At the least, each of the services to be rendered should be set out specifically against the p.c. or provisional sum in such a way as to give the estimator a reasonably good idea of its value.

It is, perhaps, even more important that this should be done on comparatively small jobs than in those of great size, because here the probable balancing effects of want of accuracy may be absent. That is to say, it is not so likely that errors in pricing may offset each other by reason of their number, and the total effect of inaccuracy will be more likely to bear hardly on the builder. Carriage and packing, together with the return of empties, have a way of mounting up on fragile goods of no great value to a sum out of all proportion to the prime cost. Similarly, fixing charges may prove to be four or five times as heavy as the estimator might reasonably anticipate. For instance, a kitchen range for the same-sized openings can cost as little as 30s. or as much as £10 for labour and supplementary materials in fixing without any warning being conveyed.

An estimator may be badly trapped by the words "to approval," an expression that some surveyors (doubtless themselves driven by time) are prone to use for want of full knowledge of the architect's requirements. In such cases the scope should at least be limited by measurement or weight. To some extent this is a survival of the days when in large towns an architect generally invited the same half-dozen or so of builders to tender for all his work, and it was generally safe to assume that they were conversant with his requirements. But outside the large cities the estimator more frequently prices work to be carried out under the direction of architects without any experience to guide him as to what is likely to meet with approval. To take a typical example, one constantly comes across items worded in the following manner:—

"Yards lineal, 5 in. cast-iron moulded eaves gutters, including wrought-iron scrolled gutter brackets to approval, screwed to feet of rafters."

It is quite impossible to price this item accurately. First of all, the thickness of metal in the gutter is not mentioned, and it may be ⅛ in., 3-16 in., or ¼ in., without going outside the bounds of ordinary practice. Then, neither weight, size, nor spaced interval is given, to say nothing of the number of screwholes in each of the gutter brackets. They may cost anything from a few pence each to as many shillings, and be fixed at 2, 3, or 4 ft. intervals. In order to price accurately, the estimator would require all this additional information and to be told how much cutting and waste will be involved, and might even then be in error should the architect require special joints involving casting to dead lengths, as sometimes happens. Similar remarks apply to rainwater pipes, and particularly those requiring ornamental ears or holder bats, the cost of which may vary between wide extremes. These should be numbered and prime-costed.

Cast-iron goods generally require careful and more accurate description than is often given to them. Manhole covers and frames, in particular, are frequently very loosely described, the size of the opening without weight being all that is given. A really well-fitting cover not liable to ride if turned round in the frame costs more than one of the same weight that has not been machined; and the weights vary considerably. In respect to all these matter it is necessary to remember that in competitive tendering it is the better class builder who is placed at a disadvantage by any laxity in these matters, because he must price up to a uniform good standard, whereas his competitor may price for at least a grade lower on the assumption that most of it will go through, perhaps not without protest.

Marginal Sketches.

While the quantities of to-day are, as a rule, better prepared than those of former times prepared in architects' offices, and, generally speaking, are capable of being more accurately priced, there is one particular in which, from the estimator's point of view, they do not compare favourably. The old-time surveyor made much use of sketches (marginal or otherwise) to convey information in a clear and readily understandable form. The sketches necessarily involved a good deal of time and trouble, but to the estimator they were of very great value on account of the clarity they lent to the accompanying description. They also made for accurate pricing. In masonry, in particular, it is sometimes quite impossible to convey a clear word picture of what is required, and though the surveyor may think he has done so the estimator may envisage something quite different without being open

to a charge of lack of intelligence. The surveyor has a mental picture to which he fits words, but these words may reflect quite a different one, when viewed from another angle.

Many architects have what, for want of a better word, I may describe as "stock" details; that is to say, they will close a cavity, project an eaves, turn a finial, and so on, in some favourite form when opportunity offers. So much is this the case that I often recognise work as theirs at a glance. I have thought that they would assist both the surveyor and the estimator if, in respect to certain features, they supplied additional copies of these old favourites in foolscap size for binding up with the bills.

It is a very easy matter to go astray in pricing joinery. Now and then the cost is increased instead of decreased by the architect's desire for simplicity. For instance, some few years before the War many architects, as if by common consent, appeared to decide that the ordinary ovolo, or other mouldings on window sashes, had been overdone, and they replaced them with rounded angles. In the days of hand-worked mouldings, this would have reduced costs; but in these days, where the tenoning machine scribes out a recess taking the moulding on the styles, this adds to the cost, because of the fine feather edge not standing up to the machine. Without a sketch the estimator is often in the dark as to how many machine operations will be involved in obtaining contours of a given girth. This is a subject that could be written about at great length, but I do not believe it to be necessary. I have always found the surveyor sympathetic and responsive to any demand for clearer information, and feel that if I have "put him on inquiry" it is safe to leave it at that.

(To be continued.)

THE TRADE DISPUTES AND TRADE UNIONS BILL

The Government has now introduced a Bill, to quote its preamble, "To amend the law relating to Trade Disputes and Trade Unions, and for purposes connected with the matters aforesaid." The Bill itself is very difficult to follow as the amendments are nearly all made by reference to the Act passed in 1927, after the General Strike, but a memorandum has been published to accompany the Bill which is of assistance, as it shows the text of the Act of 1927 as it will stand if the proposed amendments contained in the Bill are brought into force. This, however, does not suffice to show the intention of the Bill, for this can best be gathered from what is to be omitted from the Act of 1927, and we propose as briefly as possible to analyse the effect of the Bill under various headings, which, of course, are our own, and do not occur either in the Act or the Bill.

Coercing the Government.

Section 1, sub-section (1) of the Act of 1927 was directed to rendering any strike or lock-out illegal if it had any object other than, and in addition to, the furtherance of a trade dispute within the trade or industry in which the strikers, or the employers locking out, were engaged, *and* was a strike or lock-out designed or calculated to coerce the Government, either directly or by inflicting hardship upon the community, and it was declared illegal to commence or continue, or to apply any sums in furtherance, or in support of, any such illegal strike or lock-out. A trade dispute was not to be deemed "within a trade or industry" unless it was a dispute between employers and workmen or between workmen and workmen in that trade or industry which was connected with the employment or non-employment, or the terms of employment, or with the conditions of labour of persons in that trade or industry. But to prevent too narrow an interpretation being placed upon this definition it was provided that workmen should be deemed to be within the same trade or industry if their wages or conditions of employment were determined in accordance with the conclusions of the same joint industrial council, conciliation board, or other similar body, or in accordance with agreements made with the same employer or group of employers.

Under the Bill the whole of the above sub-section is to be repealed and the following sub-clause to be substituted for it: "Any strike or lock-out of which the primary object is an object other than that of furthering purposes connected with the employment or non-employment, or the terms of the employment or with the conditions of labour of any person (whether or not employed in the trade or industry in which the strike or lock-out takes place) shall be illegal, and it shall be illegal to commence, continue or to apply any sums in furtherance or support of any such illegal strike or lock-out." This clause at first sight may appear specious, but it may raise some difficult points as to the legality of some strikes in connection with the word "primary," should it become law, but for our present purpose it is sufficient to say that at any rate it restores the position to what it was after the passing of the Trade Disputes Act, 1906, and at the time of the General Strike. In 1906, under the Trade Disputes Act, statutory recognition was given to the sympathetic strike by section 5, sub-section (3) which, for the purposes of the Conspiracy and Protection of Property Act, 1875, as well as in the Act itself, defined a "trade dispute" as "any dispute between employers and workmen or between workmen and workmen which is connected with the employment or non-employment or the terms of the employment or with the conditions of labour of any person, and the expression "workmen" as meaning all persons employed in trade and industry whether or not in the employment of the employer with whom a trade dispute arises." It will be seen that the new clause closely follows the wording of this section and declares that any strike or lock-out the primary object of which is not included in it shall be illegal.

It may be difficult to say under this clause how far the general law as to strikes and lock-outs having objects other than the above will be modified by it because other considerations arise, such as whether the privileges conferred on Trade Unions under the Trade Unions Acts so far as penal acts are concerned extend to acts committed outside that charter, that is to acts not connected with the conditions of labour. For our present purpose, however, it is sufficient to say *it is clear that this clause revives the sympathetic strike, and incidentally the conditions of the general strike.* The primary object of that dispute was at first confined to the miners (call it strike or lock-out), but by means of the sympathetic strike it rapidly spread all over the country in an effort to coerce the Government through hardships inflicted upon the community, and thus, although the legislation may appear complicated, a judgment on this clause can easily be formed by answering the simple question whether such conditions were desirable.

But the Bill does not stop there. A provision is added to Sub-section (2) of Section 1 of the Act (which enacts the penalties for declaring, instigating, inciting others, or otherwise acting in furtherance of an illegal strike or lock-out) that no person shall be deemed to have committed an offence under Section 1 as amended "by reason only of the illegality of any strike or lock-out, except in respect of acts committed after the strike or lock-out has been declared by the High Court under this Act to be illegal," and under clause 4 of the Bill the Attorney-General is to be made a party to any such proceedings. The effect of this provision may be serious in such conditions as prevailed in 1926, where the dispute spread rapidly and prompt action was essential, for under the Bill the primary object of the strike or lock-out has to be determined, a question of considerable difficulty and involving complex evidence, and yet until this question has been decided, under this Bill complete immunity is conferred on all persons taking part in the strike or lock-out.

Intimidation.

Section 3, Sub-section (2) of the Act of 1927 contains a definition for the purposes of Section 7 of the Conspiracy and Protection of Property Act, 1875, of the expression "to intimidate" as causing "in the mind of a person a reasonable apprehension of injury to him or to any member of his family or to any of his dependants or of violence or damage to any person or property, and the expression 'injury' includes injury to a person in respect of his business, occupation, employment or other source of income and includes any actionable wrong." This has been watered down in the Bill to "The expression 'to intimidate' means to cause to any person a reasonable apprehension of personal injury to him or to any member of his family or to any of his dependants, or of violence or damage to his or their property." A curious picture is brought to the imagination of a person being violent to property without causing damage.

Persons Employed by Local Authorities.

Under the Bill, Section 6 of the Act of 1927 is to be "omitted," a curious expression in a Bill for the word "repealed." That section provides that it shall not be lawful for any local or other public authority to make it a condition of the employment, or continuance in employment, of any person that he shall be a member of a trade union or to impose any condition upon employees whereby those who are or are not members of a trade union are liable to be placed in any respect either directly or indirectly under a disability or disadvantage as compared with other employees, while sub-section (2) makes it unlawful for such authorities to make it a condition of any contract, or the consideration of any tender in connection with a contract, that any person to be employed by any party to the contract shall or shall not be a member of a trade union and by sub-section (3) any condition imposed in contravention of this section shall be void. We recollect that Mr. Snowden characterised the Act of 1927 as a piece of class legislation but, under this Bill which bears his name on the back and which reverses such sections as the above, is it not more easy to apply such a term to this Bill which from beginning to end is a measure in favour of one class (and that not representative of all its members), the trade unions?

In section 6, which is to be omitted, is also to be found in subsection (4) the following provision: "There shall be added to section 5 of the Conspiracy and Protection of Property Act, 1875, the following provision —that is to say: 'If any person employed by a local or other public authority wilfully breaks a contract of service with that authority knowing or having reasonable cause to believe that the probable consequence of his so doing, either alone or in combination with others, will be to cause injury or danger or grave inconvenience to the community, he shall be liable, on summary conviction to a fine not exceeding £10 or to imprisonment for a term of not exceeding three months.'"

The repeal of this sub-section leaves the law as regards municipal authorities, etc., as it stands under section 4 of the Conspiracy and Protection of Property Act, which, in much the same terms, applied to breaches of contract of service by persons employed

of a municipal authority or by any company or contractor upon whom is imposed by Act of Parliament or who have otherwise assumed the duty of supplying any city, borough, town or other place, with gas or water, a section since extended by section 31 of the Electricity (Supply) Act, 1919, to persons in the employ of joint electricity authorities or any other authorised undertakers for the supply of electricity, and section 5 of the Conspiracy and Protection of Property Act remains as unamended, that is, relating to breaches of contracts of service or hiring, where the probable consequences of the breach are danger to life, serious bodily injury or destruction or injury to property, a section drawn in far more limited terms.

The Government favours the extension of municipal trading, and it may surely be asked why the provision contained in section 6 subsection (4) of the Act of 1927 should be repealed which only gives in respect of all undertakings by local and public authorities, such, for instance, as tramways and omnibuses, the same powers in respect of breaches of contract by their employees as they already possess in respect of gas, water and electricity, especially when it is borne in mind that this can only be put in force when to the reasonable knowledge of the employee the result of his act must be to cause "injury, danger or grave inconvenience to the community."

Civil Servants.

Section 5 of the Act of 1927 (which relates to civil servants and contains powers to regulate the organisations of which they may be members) is repealed.

The Political Funds.

Section 4 (which deals with the political funds of the unions) is also repealed. This means a reversion to the principle that every trade unionist, whatever his political opinions may be, must subscribe to the political funds unless he takes the unpopular course of contracting out. In connection with this question some very significant figures were recently given by the Minister of Labour, who was reported as saying that the number of members of trade unions who had contracted in after the passing of the Act of 1927 was 43.6 per cent. of the total membership; that at the end of 1927 the number of persons exempted under the old law in 32 of the largest unions with an aggregate membership of over 2,500,000 was only 78,000, but in 1928, the first year of the new law, the number of persons exempted in the same unions was 990,000. This emphasises the observation we have made above that this Bill is a measure solely introduced in favour of a certain section of trade unionists, but not of trade unionism as a whole, for the above figures show that a large section appreciates the political freedom conferred by the Act. As for the other clauses relating to strikes, etc., the true effect of the Bill can best be ascertained by reading the sections of the Act it is now proposed to repeal and then asking the question whether the opposite of what they represent is desirable.

We much regret that the questions involved in this Bill have again been raised. It is notorious that, although a good deal of opposition was engineered to the passing of the Act of 1927, it was well accepted when it became law, and that better relations were established between employers and the trade unions. The Bill is a backward step calculated to cultivate strife and a nation oppressed by unemployment has no time to lose in strife.

Proposed Municipal Development, Chelmsford.

The Chelmsford Town Council has been recommended to approve final plans submitted by Mr. R. A Cordingley for a new library block adjoining the Rainsford House site. The estimated cost is £27,941, and tenders are to be invited forthwith. A proposal to form Rainsford House and the adjoining site into a civic centre at a cost of £80,000 was rejected by the Council.

STANDARD ARTICLES IN CONTRACTS

THE following Circular 1170 (England and Wales) has been issued by the Ministry of Health to County Councils, Town Councils, Metropolitan Borough Councils, Urban District Councils, Rural District Councils, Joint Boards, and Port Sanitary Authorities :—

Sir,—I am directed by the Minister of Health to inform you of action taken by the Government to encourage the standardisation of manufactured products and to ask for the co-operation of your authority in this matter. The adoption of standards, where appropriate, for manufactured goods is of great advantage to users and producers alike. It encourages large scale manufacture, tends to reduce cost and to facilitate delivery. Standards formulated by agreement between producers and users are issued by the British Engineering Standards Association, whose activities extend over a wide range and are not confined to the engineering and its allied industries.

Instructions have been issued to Government Departments to include in their specifications for building and other appropriate contracts the following clause :—

"All goods, not otherwise specified, to be in accordance with British Standard Specifications, where such exist."

The object is to secure that the association's specification shall automatically apply to things for which it is not considered necessary to lay down a particular specification.

The Government desire to secure the support of local authorities for this policy, and the Minister will be glad if your authority will embody this clause in their specifications. It will not, of course, obviate the need of specifying the class or type required where differing classes or types are included in the British Standard specifications, or prevent the use of other specifications where this is essential. It will, however, require the supply of standardised goods over a large field which is not now covered.

The insertion of the clause in specifications will also have an indirect advantage, because it will act as an incentive to manufacturers to go to the Association in order that their products may be standardised. In some cases local authorities may themselves wish to move for the preparation of standard specifications for particular products and to communicate directly with the Association, at 28, Victoria-street, S.W.1, for the purpose

It is not suggested that the clause quoted above can generally be inserted in the case of contracts for the purpose of stores, as distinct from contracts for the execution of works. Government Departments have found that the inclusion of the clause would be inappropriate in the specification of many commodities. The practice has been adopted, however, of attaching to tender forms relating to general stores a slip bearing the following clause :—

"It is an established practice, subject to considerations of economy, when a special specification has not been issued, to use an article made to British Standard specification. Where British Standard specifications have not been quoted in the accompanying form of tender and firms consider that such could with advantage be introduced, they are invited to express their views to the Department in a communication separate from the tender. The tender should not, however, be delayed on this account."

The Minister will be glad if your authority can see their way to adopt a similar practice. I am to add for the information of your authority that the Board of Trade have decided to compile an index to industrial specifications. The object is to investigate the specifications in use and to promote by agreement the elimination of unnecessary variety. Local authorities will no doubt be interested in this matter, and it may be found desirable to communicate with you on this subject at a later stage.

E. H. RHODES,
Assistant Secretary.

SANITATION

UNDER the auspices of the Brighton, Hove and District Association of Building Trades Employers (Mr. H. J. Penfold, Chairman of the Association, presiding) a meeting was held recently at the Grand Hotel, Brighton, when Lieutenant-Colonel Stanley H. Page, C.M.G., of Ramsgate, gave a lecture on Sanitation to a large gatherng of Sussex master builders. Dealing with the argument that intercepting traps are bad and should be abolished, the lecturer instanced a town "not very far from Brighton" that decided to do without intercepting traps. For some years a new part of the town which had been built without intercepting traps was troubled with a large amount of illness. The doctors could not make out what was the matter, but concluded that the drains had something to do with it. Eventually intercepting traps were put in, and the mysterious illness disappeared. That seemed to be an unanswerable argument for those faddists who said that traps were bad. The lecturer then demonstrated a number of instruments which he had made for detecting flaws in drainage systems efficiently, and without much trouble. These instruments, he said, could easily be made for oneself.

At question time a member of the meeting said in his town fresh air inlets had been abolished on the ground that the mica flaps were easily put out of order and therefore the inlets frequently became outlets for foul air.

The lecturer, observing that it was absolutely essential to have a continuous movement of air to keep drains pure, illustrated his point by quoting the case of the headmaster of a public school who was brought to death's door by a bad throat due to germs from defective drains. The medical officer had passed the drains, and a London expert spent three months at the school without discovering anything wrong. He (the lecturer) was called in, and, after ten days' search, he found inside the building the cause of the trouble. A length of 9-in. pipe, which had been part of the original drainage system of 60 years previously, was silted up to within an inch of the top, with the result that no air was passing through it.

TRADE OPPORTUNITIES ABROAD.

The Commercial Secretary to the Residency, Egypt, reports that the Egyptian Ministry of the Interior is calling for tenders, to be presented in Cairo by February 25, 1931, for the construction of buildings and the supply and erection of the filters, pumps, electric motors and accessories, piping, etc., for a water supply installation for the town of Chebin El Kom. Firms desirous of offering plant and materials of British manufacture can obtain further particulars from the Department of Overseas Trade, 35, Old Queen-street, S.W.1. (A.X. 10704.)

The Department of Overseas Trade announce that Mr. Stanley G. Irving, the Commercial Secretary to His Majesty's Embassy at Rio de Janeiro, is now in this country on an official visit. Mr. Irving will be available at the offices of the Department during the periods February 2-6 and 23-27, to interview manufacturers and merchants interested in the export of British goods to Brazil. He will also visit a number of industrial centres in the provinces. Firms desiring interviews with Mr. Irving in London, or information regarding his arrangements to visit provincial centres, should apply to the Comptroller-General, Department of Overseas Trade, 35, Old Queen-street, S.W.1, quoting the reference 2111/1/30.

His Majesty's Consul at Venice reports that a local company is desirous of receiving particulars and quotations from British manufacturers of machines for making bricks, solid and pierced, and also for flat tiles. Department of Overseas Trade, 35, Old Queen-street, S.W.1. (A.X. 10711.)

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

The following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. We are informed that the information given in the replies quoted is based on available knowledge, and it has to be borne in mind that further scientific investigations may in the course of time indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Dust-Proof Cement Floors.

A contractor required advice on the laying of non-dusting cement or concrete floors and on a suitable treatment to be applied to existing floors to reduce the amount of powdering which is occurring.

Reply:—Concrete floors, when properly prepared and laid, should "stand up" to all but the heaviest traffic without serious trouble from dusting and disintegration. The main causes of the formation of a dusty friable surface are:—(1) Foreign matter in the aggregates. (2) Too much cement or fine aggregate. (3) Improper consistence of the mix, either too wet or too dry. (4) Excessive trowelling. (5) Exposure of the surface to the action of frost. (6) Too rapid drying of the surface. (7) The practice of sprinkling the wet surface with neat cement.

The precautions which must be taken to prevent dusting are self-evident, and may apply to either cement—rendered or granolithic floors. In either case the finished surface should be covered as soon as it has set, and kept damp for at least seven days. Various methods are employed for hardening the surface of existing dusting concrete floors, an effective one being the application of a solution of sodium silicate. We have found that surfaces so treated showed increased resistance to wear. A certain amount of dust will probably always be found, and after the treatment small amounts of sodium silicate will be present in the dust. If it is considered that sodium silicate, which is alkaline, might be harmful to the articles being manufactured, it would be safer to use instead some vegetable oil such as tung oil (China wood oil).

Sodium Silicate Treatment.—A solution of neutral sodium silicate is well brushed over the floor, and the application repeated after an interval of twenty-four hours. A solution containing 30.5 per cent. of neutral sodium silicate diluted with about four times its volume of water has been found suitable.

Tung Oil Treatment.—Tung oil, either neat or thinned with turpentine or white spirit, is copiously applied to the concrete surface by brushing, any excess being wiped off after two hours have elapsed. If the floor is very porous, a second application on the next day may be necessary.

While it is known that vegetable oils are liable to attack concrete when kept in contact with it over a long period, it is not considered that the comparatively small amount of oil used in the above process is likely to have a harmful effect. The oil quickly dries and binds the friable particles in the surface forming a hard skin, and has the advantage that it is more likely to be effective than a chemical hardener when the floor is not in a condition approaching chemical cleanness.

Elimination of Condensation.

Architects required information as to the best method of preventing the formation of visible condensation on the hard plaster ceilings of a large building. The ceilings were constructed of either concrete finished with asphalt, or concrete and steel with floor finishes of wood block and linoleum. Most of the surfaces were treated with an oil-bound water paint.

The heating and ventilation throughout the building is on the "balanced system," in which warm air is propelled into the rooms by means of fans and vitiated air extracted by separate fans. The condensation is generally not very severe, but is sufficient to cause the distemper to peel off in a few places.

Reply:—Where large quantities of hot humid air are introduced into rooms in which the ceilings and walls are at a lower temperature than the air, condensation of moisture is bound to take place on the cold surfaces. The high conductivity of concrete would cause heat to be carried away rapidly from the surface, leaving it much colder than the air coming in contact with it. The introduction of a good heat insulator at the surface of the concrete would probably be a satisfactory mode of reducing the condensation, and the efficiency of this in preventing visible condensation, in the form of beads of water, would be increased by using a water absorbent finish. It cannot be guaranteed, however, that a cure under exceptionally bad conditions will result.

An alternative, and a more certain method of eliminating condensation, would be the erection of an air-conditioning plant which would dry out the air prior to introducing it into the building. All the rooms might be made to benefit from such an installation.

Corrosion of Lead Embedded in Cement Mortar.

A contractor forwarded a specimen of lead compo gas-pipe which had failed by corrosion along one side. The pipe had been fixed for 2½ years. A shallow chase was cut vertically in the brickwork, the pipe was inserted and cemented over on the face; cement mortar in the proportion of 1 cement to 3 of sand with an ordinary plaster finish was used. The pipe had apparently failed along the whole of the embedded length.

Reply:—This is a very good example of corrosion due to the embedding of lead in cement mortar. When lead or lead alloys are placed in contact with materials containing lime under somewhat damp conditions, rapid corrosive action is likely to be set up, and, therefore, it is considered inadvisable to use cement for making good pipe runs in solid walls. The use of a gypsum plaster such as Keene's, plaster of paris or Sirapite would be preferable for this purpose and would reduce the likelihood of failure to a minimum. It should be noted that this applies only to the case of pipes of lead or alloys of lead, and such plasters would not be suitable for embedment of iron pipe or conduit.

The question of corrosion of this kind is dealt with in Building Research Bulletin No. 6, "The Prevention of Corrosion of Lead in Buildings" (H.M. Stationery Office; price 4d. net).

Failure of Paint on Roman Cement.

An architect required information regarding the failure of paint on Roman cement. The work is external decorative plaster executed in Roman cement on Portland cement backing. The paintwork broke down completely in the first instance, and the cause was held, after investigation, to lie in some defect prior to the painting stage and not in the paint materials. The work was stripped and left through a winter, when the whole of the painting was reinstated with the contractor's entire confidence in the result. The trouble is now recommencing with apparently identical symptoms. An explanation and suggestions for a possible cure were requested.

Reply:—It appears probable from the description that the failure is the familiar one of saponification of a linseed oil paint. This type of failure is liable to occur whenever the material painted contains both free lime and certain soluble compounds of soda or potash in the presence of moisture. In such circumstances, sodium or potassium hydroxide is formed in the material, and is carried in solution into contact with the paint and there exerts a destructive effect. This dangerous combination of free lime and soluble alkali compounds is always found in set Portland cement and would also almost certainly occur similarly in set Roman cement. Oil paint applied direct to such materials, therefore, is very liable to failure if the material is at all damp at the time of painting, or if moisture subsequently gains access to the material, *e.g.*, by infiltration or repeated condensation. On an external surface of this type it cannot be stated definitely that oil paint can be applied direct with absolute safety, although ageing of the unpainted surface, accompanied as it is by carbonation of the lime and mechanical removal of soluble substances carried to the surface, goes far in practice to minimise the risk of failure.

Although it is hardly possible to recommend a "definite cure" for this sort of trouble, a method of treatment which has been found effective in many cases is to use a priming paint of a type which is itself unaffected by lime and alkali salts, and which in fact insulates subsequent coats of paint by a waterproof, alkali-resistant membrane. Several priming paints of this type are on the market, the most effective being those which have a tung-oil resin basis.

Lime Clinker Mortar

A contractor required information on the advisability of using lime, sand, ashes, and brick rubble ground up together in a mortar mill for building mortar. He also asked whether old mortar could be incorporated in the mixture.

Reply:—It is difficult to make a general statement concerning the use of such materials, since, obviously, much must depend on their nature, cleanliness, etc. The following observations, however, may be of some assistance, and will indicate the main points where precautions are desirable:—

(1) Sand should be clean and free from clay or organic impurities. It should preferably be graded from coarse to fine, and an excessive amount of fine material is undesirable.

(2) Ashes should so far as possible be thoroughly burnt, free from appreciable quantities of unburnt coal, and free from unconsumed organic material. It is desirable that the fine material should be removed by screening before grinding.

Assuming ashes to be satisfactory in the above respects, they are likely to develop more strength in a lime mortar than ordinary building sand; this is due to the fact that certain constituents of ashes display pozzolanic activity (*i.e.*, have the property of combining chemically with lime to form a cementing material). This property is made use of in common practice in the North of England, where "black mortar" is frequently used. It has to be realised, however, that the strength imparted to lime mortar by the use of ashes may be rendered useless if imperfectly burnt, unsound material is used, in which latter case trouble by blowing may quite possibly occur.

(3) There is no objection to the use of brick rubble, but it should be reasonably clean, free from organic matter, and not contaminated with earth or clay. A small amount of mortar adhering to the bricks is not likely to be objectionable, but large slabs of plaster of unknown composition should be rejected.

(4) Old mortar, whilst not likely to be actually harmful, is not a desirable material to employ. Contrary to common belief, the lime present in old mortar performs no useful function; it simply acts as a diluent of unduly fine material, and will tend to reduce the strength of the new work. The reason for this is that the lime is usually carbonated.

The principal objection to most of the above described materials is that they are commonly found to be in a dirty state, but, if properly selected and picked over, no harm should result from their use.

*Crown Copyright Reserved

BUILDING WAGES

THE National Joint Council for the building industry at its statutory meeting on January 8, in accordance with the duty imposed upon it by its rules, made its annual review of the wage payments for the time being in force under the national working rules. The Council found that the Ministry of Labour index figures of the cost of living published monthly during the antecedent period, January to December, 1930, inclusive, show that the average cost-of-living figure for the said period was 57 10/12 points above the pre-War level, which makes it necessary for the Council to give a decision making a variation amendment of the set rates of wages by way of a reduction of ½d. per hour to take effect on and from February 1 next ensuing. At the same time, the Council authorised the grading and regrading of seventy towns in the Midland, South-Western, Southern Counties and Eastern Regions. Most of these benefit by an increase of one halfpenny per hour (which, in view of the general reduction, has the effect of leaving the present rate unaltered), but ten towns are exceptions, increases being authorised which vary from one penny to twopence halfpenny.

At the same meeting the Council had under consideration the question of resuming negotiations with a view to amending the present agreement or formulating a new one, and it was decided that the parties represented should recommend to their various executives that negotiations as above referred to be resumed. It was agreed that with good will existing a new agreement should be arranged before the end of the month of March next, at which the existing agreement, as a result of the operatives' notice to withdraw, will cease. This course was unanimously adopted.

Mr. R. Coppock (Secretary, N.F.B.T.O.) made the following statement to a representative of *The Builder*: "While it is true that notice to terminate the National Agreement has been given, there is a desire upon both sides to get together to formulate a new agreement so that the industry may carry on in peace and quietness. The report of the Building Industry Council of Review shows that there are enormous economies in building construction that could be exercised, provided that the good will of the professional associations and employers' and operatives' bodies is obtained. Endeavours are being made to bring a more up-to-date building code into practice and this, with the added fact that negotiations are in progress between the bodies concerned towards forming a new form of contract, shows that all sides realise that the time is rapidly approaching when a new orientation of building trade practice should be made. The time is now, for in view of the possible improvement coming in general trade, any industry which has not its affairs in settled condition will experience a sharp reaction."

L.M.B. Sports Association.

We give below results and table in connection with the Football League of this Association up to Saturday, January 10 :—

RESULTS.

Elsilrac	...	... 0	Trocoll	...	... 12
Higgs	...	... 0	Scafco	...	... 2
Portland	...	... 2	Downs	...	... 2

TABLE.

	P.	W.	D.	L.	Goals. F.	A.	Pts.
Wills	... 11	10	1	—	63	10	21
Trocoll	... 12	8	2	2	63	14	18
Portland	... 12	7	2	3	31	23	16
Scafco	... 12	8	—	4	27	20	16
Higgs	... 10	3	2	5	31	30	8
Downs	... 13	—	2	11	8	57	2
Elsilrac	... 12	—	1	11	8	77	1

NEW BUILDINGS IN LONDON.

Ave Maria-lane. — HEADQUARTERS.— The Christian Endeavour Union, 53, Old Bailey, E.C.4, have acquired premises at No. 4 for conversion into new headquarters. The architect is Mr. C. Whitehead, 81, Dale-street, Liverpool, and the work will be carried out by Adams Bros., Ltd., Liverpool.

Camberwell. — EXTENSIONS. — Foundations are now being laid for extensions to the paper mills of Messrs. Samuel Jones, Ltd. The contractors are Messrs. H. King and Sons (Peckham), Ltd., of 2a, Commercial-road, S.E.15. Plans by Messrs. Bishop and Etherington-Smith, 30, Duke-street, Westminster, S.W.1.

Croydon.—PREMISES.—New premises for the Croydon Automobile Co., are to be erected by Messrs. C. H. Gibson, Ltd., 509, London-road, Croydon. The site is at 380-382, London-road, Thornton Heath. Mr. E. Bates, 27, Queen Victoria-street, E.C.4, is the architect.

Deptford.—TRACK.—Mr. G. E. Marshall, 1, Raymond-buildings, Gray's Inn, W.C.1, is the architect for a greyhound racing track between the north side of Surrey Canal and Silwood-street.

Ealing.—HOUSES.—Messrs. J. and J. H. Boothman (1930), Ltd., are building 262 in various roads. Mr. W. R. Davidge, 5, Victoria-street, S.W.1, is the architect.

Ealing. — SCHOOL. — A new Primitive Methodist school and institute is to be erected in Bedford-road for the Trustees of the Primitive Methodist Church. The architect is Mr. H. Kelsall Armitage, 130, Haverstock Hill, Belsize-park, N.W.3.

Ealing.—SHOPS.—A block of shops is to be erected on a corner site in South Ealing-road, opposite St. Mary's Church. The contractors are Messrs. R. Hewett, Ltd., Cleveland Works, Acton Green, W.4. Plans by Messrs. Moore and Dartnall, 1, Dowgate-hill, E.C.4.

Ealing.—SHOPS.—Messrs. Hall-Jones and Dewhirst are the architects for the erection of 19 shops with flats over in Boston-road, for the Albemarle Estates, Ltd.

East Ham.—ALTERATIONS.—For alterations to 371-373, Green-street, Mr. R. J. L. Slater, 199, Plashet-grove, E.6, is architect.

East Ham.—ALTERATIONS.—Mr. R. J. L. Slater, 199, Plashet-grove, E.6, is the architect for alterations to 225, High-street North, E.

Eltham. — SHOPS.—Messrs. W. Childs, Lemmonwell, Bexley-road, Eltham, S.E.9, are erecting shops at 165, 167, 169, High-street. Plans by Messrs. Sykes and Pomfret, 6, Park-place, Eltham.

Enfield.—PREMISES.—A new public-house, "Half Way House," is to be erected in Cambridge-road for Messrs. Whitbread and Co., Ltd., 57, Chiswell-street, E.C.1. Plans by the staff architect, Mr. A. R. Mayston, F.R.I.B.A., and the contract let to Messrs. William Downs, 12, Hampton-street, S.E.1

Forest Gate. — SHOPFRONT. — Messrs. A. Edmonds & Co., Ltd., of Constitution Hill, Birmingham, have secured through their office at 29/30, High Holborn, the contract for shopfront and interior fittings at 25, Woodgrange-road, Forest Gate, E.7.

Homerton.—ALTERATIONS.—Alterations and reconditioning of large factory premises in Tynte-street, known as Endurance Works, are now being carried out by Messrs. James Jennings & Son, Ltd., Leman-street, for Messrs. Wright Bros. (Box Makers), Ltd., under the supervision of Messrs. A. S. R. Ley & Son, F. & A.R.I.B.A., 214, Bishopsgate, E.C.2.

Lewisham.—REBUILDING.—Messrs. H. Kent. Beacon-road, S.E.13, have secured the contract for the rebuilding of a portion of the premises of Messrs. Dubois (Lewisham), Ltd., Lewis-grove. The premises will be carried out in sections, occupying 1-11, Lewis-grove. The architect is Mr. G. T. Harman, A.R.I.B.A., 165, Rushey-green, S.E.6.

Minories.—EXTENSION.—Mr. V. Wilkins, F.R.I.B.A., 12, York-buildings, Adelphi, W.C.2, is architect for extensions at 104, for Messrs. Ferguson and Timpson, Ltd.

New Cross-road.—STORE.—Messrs. Percy Antill & Co., 13, Monson-road, S.E., are the builders for a new store at Nos. 77-79.

Piccadilly.—OFFICES.—A large block of offices are to be erected in the Burlington Arcade. The architects are Messrs. Beresford Pite and Partners, 101, Great Russell-street, W.C.1.

Regent-street. — RECONSTRUCTION.—Messrs. Rice and Son, Ltd., 15, Stockwell-road, S.W.9, have obtained a contract for reconstruction of "Verrey's" Restaurant.

Sneen.—SHOPS.—A row of shops with flats over is to be erected at 292-296, Richmond-road. Plans by Messrs. T. P. Bennett and Son, F.R.I.B.A., 41, Bedford-row, W.C.1.

St. Paul's-churchyard.—RECONSTRUCTION.—Premises at the corner of Ludgate-hill are to be reconstructed for use as offices and showrooms. Plans by Mr. G. E. Nield, F.R.I.B.A., Outer Temple, W.C.2. The contract has been let to Messrs. John Greenwood, Ltd., 12, Arthur-street, E.C.4.

NEW CINEMAS

Cudworth.—Mr. P. A. Hinchliffe, 14, Regent-street, Barnsley, is to prepare plans for the reconstruction of the "Cinema Theatre," Barnsley-road, Cudsworth.

East Ham.—Mr. Cecil Masey, F.R.I.B.A., 15, Caroline-street, W.C.1, is architect for alterations proposed at the East Ham Palace.

Kensal Rise.—Messrs. J. Stanley Beard & Clare, 101, Baker-street, W., are planning additions to the "Palace" Cinema.

Purley.—Mr. A. E. Remnant, of 4, Half Moon-street, W.1, is architect for a scheme promoted by Westminster Cinemas, Ltd., Cricklewood Dancing Hall and Skating Rink, N.W.2, for the erection of a 2,000-capacity super cinema, with dance-hall, etc.

Stockport.—The C.B. has passed plans for the "Regal" cinema to be erected in St. Petersgate.

Westcliff.—Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1, has designed a cinema to be erected at Westcliff to seat 1,800.

PLUMBING TRADES CENTRAL APPRENTICESHIP COUNCIL FOR LONDON.

THE annual function, at which the employer, operative and apprentice plumbers meet for social intercourse, under the auspices of this Council, was held on Thursday, January 8, at the L.C.C. School of Building, Lime Grove, Hammersmith, W.6, under the chairmanship of Mr. W. D. Caroe, F.S.A., F.R.I.B.A., President of the Council, and was well attended. After high tea had been taken, the company adjourned to the gymnasium, where the chairman addressed a few words of welcome to all, and words of encouragement to the apprentices, remarking that this was the fifth function of the kind that had been held, each in a different school in London, and expressed his pleasure that this function was developing into a hardy annual.

Mr. W. H. M. Smeaton, F.R.S.I., Master of the Worshipful Company of Plumbers, in a short address, drew comparisons between ancient and modern plumbing, and claimed that plumbers had made life in towns healthier. The speaker exhorted the apprentices to realise that they were inheriting traditions of public service, and that they, in their turn, would have to hand on new traditions and improvements to their successors. He appealed to them to uphold the dignity of the craft by gaining a thorough knowledge of its technique and practices.

Other speakers were Messrs. H. W. Newman, W. Jarvis, W. Macdonald, H. Blackman, and C. E. Robinson. During the evening, Mr. W. H. Stitson, of Messrs. Stitson, White and Co., Ltd., exhibited some drawings showing the whole of the plumbing and piping work in an American "sky-scraper," some of the ventilation pipes in this being 16-in. diameter.

RATES OF WAGES IN THE BUILDING TRADE

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Accrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Aldershot	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Alfreton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Alnwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Altrincham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Ashford (Kent)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½
Ashington	1/6	1/6	1/6	1/6	1/6	1/6	1/6	11½
Ashton-under-Lyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/1½
Aylsham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½
Banbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	11½
Barnsley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/0
Barnstaple	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½
Barrow-in-Furness	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/0½
Barry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Basingstoke	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/2½
Bath	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/0
Bedford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Berwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bexhill	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Birkenhead	1/8½	1/8½	1/8½	1/9½	1/8½	1/8½	1/8½	1/3½
Birmingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bishop Auckland	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Blackburn	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Blackpool	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bognor Regis	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Bolton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bournemouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bradford-on-Avon	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Braintree	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Brentwood	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bridgwater	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Bridlington	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Brighton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bristol	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromsgrove	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bromyard	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bungay	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Burnley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Canterbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Cardiff	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Carlisle	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chatham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cheltenham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chesterfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Chorley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cirencester	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/0
Clacton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Cranbrook	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Crewe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cromer	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Darlington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Deal	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Devizes	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dewsbury	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Doncaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dorchester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Dorking	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Dovercourt	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Driffield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Droitwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Eastbourne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
E. Glam. (Mon. Val.)	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ely	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Exeter	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Exmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Fakenham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Felixstowe	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Folkestone	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Frome	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Glossop	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Goole	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Gosport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grantham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Great Yarmouth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Grimsby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Guildford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Halifax	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harpenden	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Harrogate	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hartlepools	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Harwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hastings	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Hereford	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/0½
Herne Bay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hertford	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Hitchin	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hoddesdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Holt	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Huddersfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hull	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hunstanton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huntingdon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Isle of Wight	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ipswich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Keighley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
King's Lynn	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Lancaster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Leamington Spa	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Leeds	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leicester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Leighton Buzzard	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Lichfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lincoln	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Littlehampton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Liverpool	1/8½	1/8½	1/8½	1/9½	1/8½	1/8½	1/8	1/3½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
London:								
12 m. radius	1/8½	1/8½	1/8½	1/8½*	1/8½	1/8½	1/7½	1/3½
12-15 m. radius	1/8	1/8	1/8	1/8*	1/8	1/8	1/7	1/3
Loughborough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Lowestoft	1/4½	1/4½	1/4½	1/4½	1 4½	1/4½	1/4½	1/0½
Luton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Macclesfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Maidstone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Malvern	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Mansfield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Margate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Market Harb'rough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Matlock	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Melton Constable	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Melton Mowbray	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Merthyr Tydfil	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Middlesbrough	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newark	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newbury	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newcastle-on-Tyne	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Newcastle-ur-Lyme	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
New Forest	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Newmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newport, Mon.	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Northampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Nuneaton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oakham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Oldham	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Oxford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Paignton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Peterborough	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/7	1/7	1/7	1/7	1/7	1/7	1/8	1/2½
Pontypridd	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Portsmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Preston	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Ramsgate	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Reading	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redcar	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Redditch	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Reigate	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Retford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ripon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rochdale	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Rochester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Rugby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Saffron Walden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
St. Albans	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
St. Helens	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Sawbridgeworth	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Saxmundham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Scarborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sevenoaks	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sheffield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Shrewsbury	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Sittingbourne	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Southampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southend-on-Sea	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
South Shields	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stevenage	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stockport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stockton-on-Tees	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stoke-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourbridge	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stourport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Stowmarket	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Stratford-on-Avon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stroud	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Sunderland	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swaffham	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Swansea	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Swindon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Tamworth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Taunton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Thetford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/0½
Trowbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Tunbridge Wells	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Uttoxeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½
Wakefield	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Walsden	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warminster	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Warrington	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warwick	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wells (Norfolk)	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Welwyn Gar. City	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
West Bromwich	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Weston-sup-Mare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Weymouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/1½
Whitby	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2½
Wigan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Winchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Windsor	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wisbech	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wolverhampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Woodbridge	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Worcester	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Worksop	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Worthing	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Wrexham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wycombe	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wymondham	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
York	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½

* The rate recognised by the National Association of Plasterers, Granolithic and Cement Workers, is 1/11½ per hour.

For Building Trade wages in Scotland, see page 172.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed, that no allowance will be made for tenders, and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor D.S.; Clerk, C.; Town Clerk T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S. Engineer E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

JANUARY 19.

Ashton-under-Lyne.—School.—School for senior boys in Mossley-rd., for E.C. G. W. Handforth, Director of Education, 8, Warrington-st. Dep. £2 2s.

Belfast.—Wall.—Boundary wall, wrought-iron gates and railings, at St. Mark's Church, Holywood-rd., for Corporation. City S.

Brighton.—Shop.—Shop premises on Grand Parade-Edward-st. site, for C.B. B.E. and S. Dep. £2 2s.

Bristol.—Schools.—Works in connection with erection of Council schools at Portway, for T.C. A. E. Oaten, architect, 22, Clare-st. Dep. £2 2s.

Bristol.—Installation.—Of electric lighting of 18 houses in Richmond-villas and 21 houses in Richmond-ter., Avonmouth, for Port Authority. T. A. Peace, Chief Engineer, Avonmouth Dock.

Custom House, E.—Fire Brigade Station.—Town Clerk, Town Hall, West Ham, E.15. Dep. £1.

Keighley.—Urinal.—At Beechcliffe, for T.C. B.E.

Kettering.—Exchange.—Employment exchange for H.M.O.W. Contracts Branch, H.M. Office of Works, King Charles-st., S.W.1. Dep. £1 1s.

Kidderminster.—Houses.—Fifty-six on Sutton estate, for T.C. J. Hawcroft, B.E. and S., 110, Mill-st. Dep. £2 2s.

Kinnerton.—Additions.—Also alterations, etc., at Talwrn Farm, Small Holdings, for Flintshire C.C. R. G. Whitley, County Architect and Surveyor, County Buildings, Mold.

Leeds.—Fencing.—Wrought-iron fencing to Lady Pit-lane open space, Dewsbury-rd., for T.C. J. E. Acfield, City E.

Leeds.—Chapel.—Crematorium, chapel, house and office at Cottingley Hall Cemetery, for T.C. J. E. Acfield, City E. Dep. £3 3s.

Leeds.—Building.—Emergency exits at Museum Park-row, for T.C. J. E. Acfield, City E.

London.—Additions.—Stables, mechanical vehicle and cart sheds, alterations and additions to existing buildings, paving and drainage works, etc., at Crisp-rd., Hammersmith, W.6, for Hammersmith B.C. R. Hampton Clucas, L.R.I.B.A., B.E. and S. Dep. £3 3s.

London.—Walls.—Earthwork, retaining walls and other works at Bishop's-rd. Station, Paddington, for G.W.R. Engineer, Paddington Station, W.2. Dep. £2 2s.

Lostwithiel.—Additions.—To Council school, for Cornwall E.C. County Architect, Truro. Dep. £1 1s.

***Morecambe and Heysham.**—Hot Water Installation. Borough Engineer, Town Hall. Dep. £2 2s.

Newbury.—Building.—Water pumping station and station superintendent's house on land abutting on Fisher's-lane, Cold Ash, for T.C. W. H. D. Lester, consulting water engineer, 18, Cheap-st.

North-East England.—Foundations.—Site works, foundation works and buildings in area of North-East England electricity scheme, for Central Electricity Board. R. H. Fox, secretary, Trafalgar-buildings, 1, Charing Cross, W.C.2. Dep. £2 2s.

Plymouth.—Shop Front.—At 4, Market-av., for T.C. J. Wibberley, City Engineer and Architect, Sun-bldgs. Dep. £1 1s.

Plymouth.—Reconstruction.—Demolition and reconstruction of 35, New-st., for T.C. R. J. Fittall, T.C.

Plymouth.—Demolition.—Of embankment-ter., for T.C. J. Wibberley, A.M.Inst.C.E., City E. Dep. £1 1s.

Plymouth.—Extensions.—To warehouse, for Plymouth Tile and Hardware Co., Ltd. A. V. Rooke, F.R.I.B.A., 3, Sussex-ter. Dep. £2 2s.

Preston.—Garage.—Bus garage and trackless tram depôt, The Moor, Deepdale, for C.B. W. Platt, B.E. and S., Birley-st. Dep. £1.

Romford.—Headquarters.—Erection of, for the Essex Territorial Army Association. The Secretary, Market-rd., Chelmsford. Dep. £2 2s.

Tredegar.—Re-roofing.—Re-roofing with asbestos slates of 25 wooden bungalows, for U.D.C. W. Lloyd Boach, Surveyor's Department. Dep. 10s.

Wark-on-Tyne.—Wall.—Stone wall to churchyard extension, for S. Michael's Church Council. Rector, Wark-on-Tyne.

Warwick.—Alterations.—And additions to the County offices. A. C. Bunch, County Architect, 27, Binswood Avenue, Leamington. Dep. £2 2s.

Worthing.—Conveniences.—On Marine-parade, for T.C. B.E.

JANUARY 20.

Belfast.—Heating.—Of nurses' annexe, administrative block, Municipal Sanatorium, Whiteabbey, for Corporation. City S.

Boot'e.—Houses.—57 houses in terraces and pairs north of Aintree-rd. and east of Fernhill-rd., for C.B. B.E and S. Dep £2 2s

Bradford.—Houses.—770 on No. 8 Chellow Grange estate, for T.C. City Architect.

Dewsbury.—Extensions.—To juvenile library at Wellington-rd., for C.B. Borough Architect and Surveyor.

Edinburgh.—Shed.—Tractor shed at Balcarres-st. depôt, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Glynn.—School.—Elementary school at Glynn, Co. Antrim, for Larne Regional E.C. Chief Architect, Ministry of Finance, Northern Ireland, 79, Royal-av., Belfast. Dep. £2 2s.

Huddersfield.—Laundry.—And alterations and additions to dairy, Alfred-st. and East Parade, Huddersfield, for Industrial Society, Ltd. J. Berry & Sons, 1, Market-walk.

Hull.—Installation.—Of electric light at Williamson-st. school, for E.C. R. C. Moore, Director of Education. Dep. £2.

Keighley.—School.—New girls' grammar school and caretaker's house, for West Riding E.C Education Officer, County Hall, Wakefield.

Nottingham.—Conversion.—Of boiler room to offices and stores at Talbot-st. electricity station, for T.C. T. Wallis Gordon, City E. and S. Dep. £2.

Redditch.—Alterations and Additions.—To post office, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Sheffield.—Houses.—26 parlour type on Longley estate (building scheme No. 20), and 98 non-parlour type on Shiregreen estate (building scheme No. 8), for T.C. W. Geo. Davies, F.R.I.B.A., City Architect. Dep. £2.

Tottenham, N.—Additions.—To Central Library, for the U.D.C. Clerk, Town Hall. Dep. £2.

Troon.—Building.—New municipal buildings and pavilion at South Beach, for T.C. R. Young, G. T. Adam, Joint Town Clerks.

JANUARY 21.

Bury.—Wall.—Reinforced concrete retaining wall and appurtenant works in Bolton-st., for C.B. B.E. Dep. £1.

Chatham.—Metalwork.—Shop and adaptations, at the Junior Technical School, for the Kent E.C. Director of Education, Springfield, Maidstone. Dep. £2 2s. (payable to Kent E.C.).

***Croydon.**—Schools.—Norbury Manor (extension), Rockmount (erection), Ingram (extension), for the Corporation. Education Officer, Education Office, Katharine-st. Dep. £1 1s.

Darlington.—Accelerated low-pressure hot-water heating, etc., at employment exchange, etc., for H.M.O.W. Contracts Branch, H.M. Office of Works, King Charles-st., London, S.W.1. Dep. £1 1s.

Doncaster.—Stalls.—Fish stalls under new market roof, for C.B. R. E. Ford, Estates Surveyor, 3, Priory-pl.

Easthamstead.—Dwellings.—Twenty-two working class in Binfield-rd., Bracknell, for R.D.C. F. G. Sainsbury, architect and surveyor, 154, Friar-st., Reading. Dep. £2 2s.

Halifax.—Houses.—114 on Sand Hall-lane, for C.B. A. C. Tipple, B.E., Crossley-st. Dep. £1 1s.

Kingston-upon-Hull.—Installation.—Of electric lighting and electric heating installation at East Hull Cemetery chapels, superintendent's house and foreman's lodge, for T.C. D. Harvey, A.R.I.B.A., City Architect. Dep. £1 1s.

Leeds.—Constructional Steelwork.—Supply and erection of, in connection with the additional civic buildings, Town Clerk's Office, 26, George-st.

Liverpool.—Conveniences.—In Breckfield-rd North, for T.C. City E. Dep. £2 2s.

Manchester.—Library.—Branch library on Wilbraham estate, for T.C. City Architect. Dep. £1 1s.

Reading.—Adaptation.—Of old Kendrick boys' school, Queen's-rd., to form a school medical clinic, for C.B. B.S. Dep. £2 2s.

St. Albans.—Floor.—Concrete floor over coal store in boiler house and glazed roof to nursery verandah at Poor Law Institution, for Hertfordshire C.C. H. F. Mence, L.R.I.B.A., 43, Upper Lattimore-rd., St. Albans. Dep. £2 2s.

JANUARY 22.

Belfast.—Heating.—Also plumbing at new public elementary schools, Carr, Crossgar, Ballywalter and Newtownards; heating installation at new public elementary schools, Backnamullagh and Ballymacashon, for County Down Regional E.C. C. J. Love, 5, Wellington-place, Belfast.

Devon.—Improvements.—To various teachers' houses at Council schools, for E.C. County Architect, 97, Heavitree-rd., Exeter.

Lutterworth.—Houses.—26 non-parlour type, off New-st., for R.D.C. S. Den. £1.

Rochdale.—Building.—Extension of kitchen, etc., in infirmary block at Birch Hill Hospital, and alterations to provide accommodation for operating theatre, etc., at Marland Hospital, for C.B. B.S.

Rochdale.—Alterations.—To form teachers' room at Derby-st. Council school, for C.B. B.S.

St. Germans.—Dwellings.—Eight working class dwellings at Landrake, for R.D.C. J. P. Heath, clerk. Dep. £2 2s.

Wrayham.—Roof.—Covering underside of roof of butchers' market, for T.C. Jno. England, B.E.

JANUARY 23.

Edinburgh.—Reconstruction.—Cowgate Grassmarket Improvement scheme; reconstruction of Old Harrow Inn, for T.C. E. J. MacRae, A.R.I.B.A., City Architect.

Hollinwood, Oldham.—Internal Painting.—At H.M.S.O., for the Commissioners, H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

Salisbury.—Bath.—Open-air swimming-bath, for Corporation. Howard Humphreys & Sons, 17, Victoria-st., S.W.1. Dep. £3 3s.

Sandbach.—Cottages.—10 non-parlour type cottages in Newall-av., for U.D.C. J. R. Price, architect, Sandbach.

JANUARY 24.

Kington.—Cottages.—Six pairs at Park-av., for U.D.C. J. R. Swindells, clerk, 2, High-st.

JANUARY 25.

Monmouth.—Houses.—20 at Wyesham-lane, for T.C. B.S., Priory-st. Dep. £2 2s.

JANUARY 26.

Dunfermline.—Houses.—82 at Baldridgeburn, for T.C. D. H. Shaw, B.E. Dep. £1 1s.

Finchley, N.3.—Public Convenience.—For U.D.C. Acting Clerk, Council Offices. Dep. £1.

Liverpool.—Pavilion.—Bowls pavilion and conveniences at Springwood gardens and recreation ground, Woolton-rd., Allerton, for Corporation. Land Steward and Surveyor.

***London.**—Repairs, etc.—Repairs and spraying of road at St. Nicholas Hospital and Woolwich Institution, Plumstead High-st., S.E.18; Lamorbey Residential School, Sidcup, Kent; Shirley Residential School, Wickham-rd., Shirley, Croydon, for L.C.C. Chief Engineer, The Old County Hall, Spring-gardens, S.W.1. Dep. £1.

***Hornsey.**—Repairs, etc.—External painting and repairs to Andover Children's Home, Andover-row, Hornsey, N.7. The Chief Engineer, Old County Hall Spring-gardens, S.W.1. Dep. £1.

***Oswestry.**—Houses.—Town Clerk, Guildhall. Dep. £1 1s.

Tottenham, N.15.—Alterations and Additions.—At Stamford-hill school, for the Tottenham E.C. Clerk, Education Offices, Philip-lane, S. Tottenham. Dep. £2.

JANUARY 27.

Ardsley East and West.—Houses.—12 non-parlour on Westerton-rd. housing estate, for U.D.C. S. Dep. £2 2s.

Kelty.—Houses.—Eighty, for Fife C.C. H. F. Hodge, Commercial Bank-bldgs., High-st., Dunfermline.

Kent.—Cottages.—Erection of, in the following parishes:—Beneden, Frittenden, Hawkhurst, Kilndown and Sandhurst, for Cranbrook R.D.C. Clerk. Dep. £1 1s.

Maldon.—Shed.—Small engine shed and other works at Tolleshunt Knights waterworks, for R.D.C. William Almond, E., 6, Market-hill.

Maldon.—Dwellings.—Four pairs, Cripplegate, Southminster; four pairs, Mell-rd., Tollesbury; three pairs, Langford; two pairs, Pump-corner, Purleigh, for R.D.C. Wm. Almond, 6, Market-hill.

JANUARY 28.

***Beckenham.**—New School.—Clerk, Council Offices. Dep. £5 5s.

Lumphinnans.—Houses.—8 houses at Lumphinnans, near Miners' Welfare Institute; 8 houses at Brucefield, for Fife C.C. W. Williamson, F.R.I.B.A., architect, Kirkcaldy. Dep. £1 1s.

Uxbridge.—Installation.—Of accelerated low-pressure hot water heating at Post Office, etc., for H.M.O.W. Contracts Branch, King Charles-st., S.W.1. Dep. £1 1s.

Whittlesey.—Houses.—12, at Coates, for U.D.C. F. W. English, clerk. Dep. £1 1s.

JANUARY 29.

Bredbury and Romiley.—Houses.—22 parlour-type in pairs on Cherry Tree estate, Compstall-rd., Romiley, for U.D.C. Wm. A. Banks, architect, 76, Wellington-rd. South, Stockport. Dep. £2 2s.

Dublin.—Installation.—Of central heating and ventilating equipments at offices in Bar'h Quay, for Irish Press, Ltd. J. F. Crowley & Partners, engineers, Westminster House, Great George-st., Westminster, S.W.1. Dep. £2 2s.

Lutterworth.—Houses.—Six non-parlour type in Bell-st., Claybrooke Magna, for R.D.C. S., 2, The Terrace. Dep. £1.

***Macclesfield.**—Erection.—Of new employment exchange, for H.M.O.W. Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

Yeovil.—Post Office.—Erection of, for H.M.O.W. Contracts Branch, King Charles-st., London, S.W.1. Dep. £1 1s.

JANUARY 31.

***Enfie'd.**—Open-air Swimming-bath.—(a) The construction of bath and works other than buildings; (b) the construction of buildings. Kenneth Tansley, Clerk to the Council, Public Offices, Enfield, Middlesex.

Smethwick.—Heating.—Low-pressure hot-water heating of Holly Lodge high school for boys (accommodation 600), for E.C. S. Childs, Director of Education, 215, High-st. Dep. £3 3s.

FEBRUARY 2.

Bridlington.—Installation.—Electrical installation of new municipal offices in Quay-rd., for T.C. B.E. Dep. £2 2s.

***Bury.**—Flats.—Erection of, 200 flats, for the Corporation. Town Clerk, Municipal Offices, Bank-st. Dep. £5.

Dublin.—Additions.—Alterations and additions to Charlemont House, Parnell-sq., for T.C. City Architect, Exchange-bldgs., Lord Edward-st. Dep. £5 5s.

***East Barnet.**—School.—For Herts C.C. County Surveyor, Hatfield, Herts. Dep. £2 2s.

***London, W.**—Flats.—For T.C. Town Clerk, Municipal Offices, Acton, W.3. Dep. £2.

***Shennerton.**—Houses.—For U.D.C. Clerk, Council Offices, Sunbury-on-Thames. Dep. £2 2s.

Southampton.—Walls.—Reinforced concrete retaining walls, parapet walls, and a roadway of

asphalt on concrete foundation, forming approaches to Battersea No. 3 Bridge, for C.B. B.E., 35-35, French-st. Dep. £3 3s.

Southampton.—Houses.—Six, and for laying of approximately 16c yds. of cast-iron water mains and 245 yds. of steel gas mains in Parsonage-lane, for T.C. E. Turnbull. Dep. £2 2s.

Tendring.—Cottages.—6, Bradfield; 6, Kirby-le-Soken; 10, Lawford; 10, Thorpe-le-Soken, for R.D.C. F. G. Vincent Brown, architect, Dovercourt Bay.

FEBRUARY 3.

***Barnet.**—Houses.—Erection and drainage, etc., of 44 houses on the Willbourne estate, for U.D.C. Clerk, Old Court House, Wood-st. Dep. £2 2s.

***Darlington.**—Alterations.—To the Head Post Office, Darlington. Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

***Ealing.**—Erection.—Of handicraft and science rooms at Little Ealing School. Geo. E. Brydges, Town Clerk, Town Hall, Ealing, W.5. Dep. £2 2s.

***Redhill.**—Demolition, etc.—Demolition work and erection of a new post office at Redhill. Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

Staffordshire.—Installations.—Of electric light in Brownhills Ogley Hay senior girls' new Council school to accommodate 360 children; Brownhills Walsall Wood senior mixed Council school; new assembly hall, science room, staff room, cloak rooms, etc.; Burntwood Chase Terrace senior boys' and senior girls' new Council schools, each to accommodate 400 children; Short Heath senior mixed new Council school to accommodate 400 children; Wednesfield junior mixed new Council school to accommodate 350 children, for E.C. Moffett, Rosher & Mann, consulting engineers, Union-chams., Temple-row, Birmingham. Dep. £4 4s.

***Yeovil.**—Houses.—Three non-parlour type houses at Park-st. H. C. C. Batten, Town Clerk, Municipal Offices. Dep. £1 1s.

FEBRUARY 4.

***London, S.E.**—Houses.—Erection of 36 houses, for the Greenwich B.C. Town Clerk, Town Hall, Greenwich, S.E.10. Dep. £2 2s.

FEBRUARY 5.

***Burton-on-Trent.**—Telephone Exchange—Erection of a telephone exchange at Burton-on-Trent. Contracts Branch, H.M.O.W., King Charles-st., S.W.1. Dep. £1 1s.

Riccall.—Houses.—Non-parlour type at Barlby (4), Cliffe (4), North Duffield (4), Skipworth (4), and Kelfield (4), for R.D.C. H. Bell, S., Barlby-rd., Selby. Dep. £1 1s.

***Southampton.**—School.—New senior boys' school, Andover. Clerk of the County Council, The Castle, Winchester. Dep. £1 1s.

FEBRUARY 6.

East Lothian.—Houses.—24 3-apartment, at West Barns housing site, for C.C. County Architect, Property and Works Department, Haddington.

FEBRUARY 7.

***Mill Hill.**—Temporary School.—For the Hendon U.D.C. Chairman, Education Committee, Town Hall, N.W.4. Dep. £4 4s.

FEBRUARY 13.

***Leyton.**—Alterations.—Alterations and additions to Conterbury-rd. junior school. Jno. Atkinson, Town Clerk, Town Hall. Dep. £2.

NO DATE.

Belfast.—Additions.—To 109, Corporation-st., for J. M'Neill, Ltd. John Seeds, F.R.I.B.A., architect, 7, Donegall-sq. West, Belfast.

Biggleswade.—Cottage.—For Bedfordshire C.C. F. C. Levitt, architect, Biggleswade. Dep. £2 2s.

Doncaster.—Block.—New transport block, Great North-rd., for Doncaster Co-operative Society, Ltd. T. H. Johnson & Son, architects, 20, Priory-pl. Dep. £5 5s.

Hippersholme.—Conveniences.—At Bailiffe Bridge, for U.D.C. Wm. Hepworth, S.

Huddersfield.—Painting.—Also decorating work at new Plaza Picture Theatre, Thornton Lodge. J. T. Beaumont, Plaza Picture Theatre, Thornton Lodge.

Portsmouth.—Repairs.—Building works and maintenance of military buildings at Portsmouth, Hilsea, Gosport, Winchester, Netley and Christchurch, Freshwater, Sandown and Parkhurst, Bovington, Lulworth, Dorchester, Weymouth and Portland, for War Dept. T. R. Harris, Lieut.-Colonel, R.E., Commander, Royal Engineers, Wessex Area (East), Portsmouth.

West England.—Repairs.—New building works and maintenance of military buildings at Somerset, Devon and Cornwall, for War Dept. R. A. S. Mansel, Lt.-Col., R.E., Comdr. Royal Engineers, Wessex (West) Area, Cumberland-rd., Devonport, Plymouth.

Yate.—Installation.—Of electric light and supplying necessary fittings in St. Mary's Church, for Parochial Church Council. J. Gould, Goose Green, Yate, near Bristol.

MATERIALS, etc.

JANUARY 19.

Caterham and Warlingham.—Road Materials.—For U.D.C. E. and S.

Cheltenham.—Highway Materials.—For T.C. J. S. Pickering, B.E.

Devon.—Cement, etc.—For C.C. R. M. Stone, C.S., 9a, High-st., Barnstaple.

London.—Building Materials.—For Camberwell B.C. W. Bell, B.E. and S.

JANUARY 21.

Essex.—Road Materials.—For Essex C.C. W. H. Morgan, C.S., Chelmsford.

Caistor-cum-Nough.—Road Materials.—For R.D.C. E. Donelly, 17, Morley-st.

London.—Highway Materials.—For Chelsea B.C. W. R. Manning, B.S.

Southend-on-Sea.—Building Materials.—For C.B. Borough Electrical Engineer and Manager, Electricity Works, London-rd.

JANUARY 22.

East Sussex.—Granite, etc.—For County Roads and Bridges Committee. H. E. Lunn, C.S.

Liverpool.—Paints, etc.—For T.C. General Manager, Liverpool Corporation Tramways, 24, Hattongdn

JANUARY 23.

Croydon.—Granite, etc.—For C.B. B.E.

Durham.—Highway Materials.—For C.C. W. J. Merrett, C.E. and S., 43, Old Elvet, Durham.

JANUARY 24.

Grimsby.—Materials.—For R.D.C. J. B. Wikeley, E. and S., Deansgate.

London.—Highway Materials.—For Paddington B.C. W. F. Abbiss, T.C.

Pontefract.—Road Materials.—For T.C. B.E.

Smethwick.—Highway Materials.—For C.B. R. Fletcher, B.E. and S.

JANUARY 26.

Huntingdonshire.—Broken Granite.—For C.C. H. Leete, C.S., Huntingdon

Newbury.—Slag, etc.—For T.C. S. Widdicombe, T.C.

Willesden.—Road Materials.—For U.D.C. F. Wilkinson, E.

JANUARY 27.

Southall-Norwood.—Highway Materials.—For U.D.C. J. B. Thomson, E. and S.

JANUARY 28.

Cairo.—Asphalt.—For Egyptian Ministry of Public Works, Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. B.X. 6909.)

JANUARY 29.

Kingston-upon-Hull.—Cement, etc.—A. R. Hills, Deputy City E.

***London, S.W.2.**—Builder's Materials.—For Lambeth B.C. Town Clerk, Town Hall, Brixton-hill.

JANUARY 30.

Hertfordshire.—Tar, etc.—For C.C. A. E. Prescott, C.S., Hatfield.

Hertfordshire.—Broken Granite, etc.—For C.C. A. E. Prescott, C.S., Hatfield.

JANUARY 31.

Blackpool.—Highway Materials.—For C.B. Borough Treasurer.

Bucks.—Broken Granite, etc.—For C.C. E. Winfield, C.S., Aylesbury.

Canterbury.—Road Materials.—For T.C. H. M. Enderby, City E. and S.

Gillingham.—Road Materials.—For T.C. J. L. Redfern, B.E. and S.

FEBRUARY 2.

Bridgwater.—Road Materials.—For T.C. R. A. Wilson, B.E. and S.

Chatham.—Road Materials.—For T.C. R. L. Honey, B.E. and S.

***London, S.W.11.**—Builder's Materials.—For Battersea B.C. Town Clerk, Town Hall.

London.—Road Materials, etc.—For St. Marylebone B.C. T.C.

Welwyn Garden City.—Road Materials.—For U.D.C. Capt. W. E. James, S.

West Suffolk.—Road Materials.—For C.C. E. H. Bond, C.S., Bury St. Edmunds.

ENGINEERING, IRON AND STEEL

JANUARY 19.

Biggleswade.—Drainage.—Sewerage and sewage disposal works, for provision, laying and jointing of about 3,200 lin. yds. of 12-in., 9-in., and 6-in. stoneware sewer pipes, with lateral drains, manholes, flushing chamber and ventilators; and extensions to existing sewage disposal works, with ancillary works, in parish of Potton, for R.D.C. Sir Alexander Binnie, Son and Deacon, engineers, Artillery House, Artillery Row, Westminster, S.W.1. Dep. £10.

Bradford-on-Avon.—Water Supply.—Small pumping station and the laying of 850 lin. yds. of 4-in. C.I. main, together with all the works auxiliary thereto, at Westwood, for R.D.C. Parker, Pearson & Ross Hooper, engineers, Dallas-chambs., Chippenham. Dep. £2.

Whitstable.—Widening.—Of Harbour-st., including construction of heavy mass concrete retaining wall and reinforced concrete sheeting and driving of 12-in. by 12-in. reinforced concrete piles, for U.D.C. G. Dunkin, S. Dep. £5 5s.

JANUARY 22.

Wilts.—Reconstruction.—Of Ashton Keynes and Swan's-lane bridges, for C.C. H. S. Ganderton, C.S., Trowbridge. Dep. £2.

JANUARY 24.

Johannesburg.—Tank.—Sewage sludge digestion tanks, for T.C. Dept. of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X. 10,667.)

Sunderland.—Wall.—Sinking of concrete monoliths, construction of reinforced concrete retaining wall and other works in connection with construction of new quay upon site in and adjoining the River Wear, for C.B. W. H. S. Tripp, M.Inst.C.E., c/o River Wear Commissioners, St. Thomas-st., Sunderland. Dep. £10.

JANUARY 26.

Kingston-upon-Hull.—Sewerage.—Cast-iron sewers, manholes, inspection chambers, together with ejector station and other incidental works, for New-st.—Paragon Station to Beverley-rd., for T.C. City E.

Ruislip-Northwood.—Sewerage.—Extension to main drainage of South Ruislip, for U.D.C. Howard Humphreys and Sons, consulting engineers, 17, Victoria-st., Westminster. Dep. £3 3s.

JANUARY 28.

Herne Bay.—Improvements.—Various retaining walls, promenades and bathing cabins in reinforced concrete, and public convenience and shelter in brick and tiles, together with all appurtenant works, at East Cliff, for U.D.C. B. J. Wormleighton, E. and S. Dep. £2 2s.

Llandudno.—Waterworks.—Construction of additional impounding works in reinforced concrete, tunnels, about 905 yds. of conduits in 21-in., 15-in. and 12-in. steel tubes, and other works, at Council's reservoirs, Talybont, Conway Valley, in parish of Caerhun, for U.D.C. W. T. Ward, Waterworks Engineer. Dep. £2 2s.

Newton Abbot.—Sewerage.—620 lin. yds. stoneware and concrete pipe sewers, ranging from 12 in. to 30 in. dia., together with manholes, etc., and opening up and rejointing 1,030 lin. yds. of existing stoneware and cast-iron pipe sewers, ranging from 6 in. to 12 in. dia., at Bovey Tracey, for R.D.C. S. Dep. £1.

JANUARY 31.

Rum.—Reconstruction.—Of bridge on Totton bypass, for Southampton C.C. W. J. Taylor, C.S., The Castle, Winchester. Dep. £2 2s.

Salop.—Widening.—Widening of Tern Bridge and approaches, situate about 5 miles east of Shrewsbury, on London-Holyhead-rd., for C.C. W. H. Butler, C.S., Shrewsbury. Dep. £5 5s.

Wantage.—Sewerage.—Laying of 362 yds. of 12 in., 219 yds. of 9 in., and 490 yds. of 6 in. stoneware and auxiliary sewers, connecting up house drains, construction of septic tanks and percolating filters, and laying out land as an irrigation area, at East Hendred, for R.D.C. John W. Harris, civil engineer, East Challow, Wantage. Dep. £2 2s.

FEBRUARY 2.

Fareham.—Sewage.—Sewage works at Salterns-lane and Bridgefood and Law Quay, for U.D.C. Taylor & Wallin, engineers, 1, Saville-place, Newcastle-upon-Tyne. Dep. £10.

Newcastle-upon-Tyne.—Extension.—Reinforced concrete quay, 697 ft. in length, on River Tyne, east of Ouse Burn, for T.C. City E. Dep. £3 3s.

South Africa.—Steelwork.—Structural steelwork and other materials for extension to wagon repair shop at Pietermaritzburg, for South African Railways and Harbours Administration, Department of Overseas Trade, 35, Old Queen-st., S.W.1. (Ref. A.X.10,666.)

ROAD, SEWERAGE, AND WATER WORKS.

JANUARY 19.

Caerphilly.—Paving.—Paving, kerbing, sewering, forming, and metalling, etc., North View-ter., for U.D.C. T. H. Richards, S. Dep. £2 2s.

Cowal.—Reconstruction.—Of Strachur-Tighnabruaich-rd. from near Stucreoch southwards towards Leanach, distance of 2,500 lin. yds., for Argyll C.C. C.E., Lochgilphead.

Doncaster.—Sewerage.—240 lin. yds. of 21-in. sewers, and 200 lin. yds. of 18-in. surface water drain, in open cutting and including all necessary manholes, on Woodfield estate, Balby, for C.B. F. Oscar Kirby, B.E., 2, Priory-pl.

Edmonton.—Making-up.—Alberta-rd. and Ladbroke-rd., for U.D.C. E. J. Willis, E. and S. Dep. £2 2s.

Hazel Grove and Bramhall.—Making-up.—Abingdon-rd. Bramhall (part of), length 211 yds, surface water drainage; Carr Wood-rd., Bramhall (part of), length 593 yds., making-up, including tar macadam carriageways; Douglas-rd., Hazel Grove, length 258 yds., making-up, including tar macadam carriageways, for U.D.C. S. Dep. £2.

Leeds.—Footpaths.—Repairs to tarmacadam footpaths in various parks, for T.C. J. E. Acfield, City E.

London.—Repairs.—Repair and maintenance of all works of stone paving in the carriageways and footways of the City, for Corporation. City E. Dep. £2 2s.

London.—Sewer.—Reparation, maintenance and reconstruction of sewers and drains of City, for Corporation. City E. Dep. £2 2s.

Mitcham.—Reconstruction.—Also widening of London-rd. from Old Post Office to Morden-rd., for U.D.C. S.

Shardlow.—Sewers.—1,450 yds. lin. of 9 in. and 1,700 yds. lin. of 6 in. pipe sewers, with appurtenant manholes, at Little Eaton, for R.D.C. Elliott & Brown, chartered civil engineers, Burtonbids., Parliament-st., Nottingham. Dep. £3 3s.

Willesden.—Making-up.—Of Donnington-rd., for U.D.C. F. Wilkinson, E. Dep. £1 1s.

JANUARY 20.

Birmingham.—Sewer.—Widening and reconstruction of Bromford-lane, between Kingsbury-rd. and Tyburn-rd., including construction of surface water sewers, for T.C. H. Humphries, M.Inst.C.E., City E. and S. Dep. £2.

Carlisle.—Improvements.—To Warwick-rd., Wigton-rd. and Orton-rd., for T.C. P. Dalton, A.R.I.B.A., City E. and S., 18, Fisher-st. Dep. £3 3s.

Dublin.—Extension.—Laying of drains and the making of paths to extension of Templeogue Graveyard, for Board of Public Health. T. B. Byrne, E., 1, James's-st.

Northfleet.—Sewer.—2,500 lin. yds. of concrete sewer of various dimensions from 60 in. by 40 in. egg-shaped to 18 in. circular, including necessary manholes and other details, in Perry-st., for U.D.C. J. A. Mitchell, S. Dep. £5.

Southport.—Making-up.—Levelling, paving, metalling and making good of Rookery-rd., for C.B. A. E. Jackson, B.E. Dep. £2 2s.

Tottenham.—Making-up.—Passageway, 320/359, Green-lanes; Albion-rd.; Reform-row (remainder)

Walpole-rd.; Walpole-gardens; Brantwood-rd.; Coniston-rd.; for U.D.C. E. Dep. £1.

JANUARY 21.

Isle of Ely.—Road.—Constructing a new road approximately 1¾ miles in length to form diversion of existing road, near Wisbech, for C.C. R. S. W. Perkins, C.S., County Hall, March. Dep. £5.

JANUARY 22.

Luton.—Sewer.—Laying foul water sewer in Filmer-rd. (approx. length 460 yds), and Capron-rd. (approx. length 240 yds.), for T.C. J. W. Tomlinson, B.E., 18, Upper George-st. Dep. £1 1s.

JANUARY 23.

Dublin.—Road.—Preparation of existing road surface and laying of 7 in. two-coat concrete road at Mountpleasant-terr., Rathmines, for Corporation. City Treasurer, Exchange-bldgs., Lord Edward-st. Charge 5s.

JANUARY 24.

Benfleet.—Sewerage.—2½ miles of stoneware pipe sewers with manholes, and works incidental thereto, at Hadleigh, for U.D.C. W. E. Blizard, E. (Lemon & Blizard), 9, Victoria-st., Westminster. Dep. £3 3s.

Dartford.—Widening.—Also improvement of portion of Park-rd., for U.D.C. S.

Ilford.—Sewer.—For Aldborough Grange, Eastern-av., 12 in. dia sewer extension, comprising about 570 yds. of stoneware sewer, with manholes and other appurtenant works, for T.C. L. E. J. Reynolds, B.E. Dep. £2 2s.

Ilford. — Making-up. — Of Brentwood-gardens, Grasmere-gardens, Derwent-gardens, for T.C. B.E. and S. Dep. £2 2s. each rd.

JANUARY 26.

Beckenham.—Road.—Widening portion of Upper Elmers End-rd. for length of about 1,450 lin. yds., for U.D.C. H. Storr Best. Dep. £2.

Beddington and Wallington.—Improvements.—At The Ridge, for U.D.C. S. F. R. Carter, A.M. Inst.C.E., E. and S. Dep. £1 1s.

London.—Paving.—Of Shelbury-rd., Therapia-rd., Scutari-rd., Marmora-rd., for Camberwell B.C. W. Bell, B.E. and S.

Northwick.—Sewer.—Laying 1,300 yds. of sewer, with ancillary works, and construction of river crossing, for U.D.C. W. M. Beckett, engineer, Victoria Station House, S.W.1. Dep. £1 1s.

The Maldens and Coombe.—Making-up.—Thetford-rd. West (whole of) and Thetford-rd. (part of); and Selwyn-rd. (part of), for U.D.C. S. Dep. £4 4s.

JANUARY 27.

Dover.—Making-up.—Of Hillside-rd. (approx. length 875 ft.) and Leighton-rd. (approx. length 250 ft.), for T.C. Wm. Boulton Smith, B.E. Dep. £1 1s.

Ilford.—Extension.—290 yds. lin. of 27-in. dia. sewer, 47 yds. lin. of 12-in. dia. sewer and 30 yds. lin. of 9-in. dia. sewer, together with manholes, connections and other works appurtenant thereto, in extension of existing storm-water sewer in Cranbrook-rd. and Valentines-park, for T.C. L. E. J. Reynolds, B.E. Dep. £2 2s.

Luton.—Roads.—Sewering, kerbing, channelling and foundations in construction of new roads on part of Bishopscote-rd. housing site, for T.C. J. W. Tomlinson, B.E. and S., 18, Upper George-st. Dep. £1 1s.

JANUARY 28.

Brentford and Chiswick.—Reconstruction.—In asphalt on reinforced concrete portion of carriageway in Windmill-rd., Brentford, for U.D.C. E. Willis, E. and S.

Chelmsford.—Roadwork.—Surfacing of roads, paving of footways, laying of surface-water gullies, etc., in North-av., West-av. and The Green, on Boarded Barns housing estate, for T.C. E. J. Miles, B.E. and S. Dep. £1 1s.

Hambledon.—Sewer.—Hundred and seventy yds. of surface water sewer at Guildford-rd., Shalford, for R.D.C. P. Williams, S. Dep. £1 1s.

Westmorland.—Widening.—Widening and improving Windermere-Ings section of Kendal-Keswick-rd., for C.C. Charles E. Hines, C.S. and Bridge Master, 12, Lowther-st., Kendal. Dep. £25.

JANUARY 31.

Barnet.—Drainage.—Underdrainage of a recreation field of about 13½ acres at Shenley-rd., Borehamwood, for R.D.C. A. J. Wilshire, S.

Clayton-le-Moors.—Surfacing.—Laying of concrete foundation and surfacing with bituminous asphalt of some 940 yds. in Church-st., for U.D.C. A. Dodgeon, S.

Thornton Cleveleys. — Making-up. — 14 various roads, for U.D.C. H. Fenton, S. Dep. £3 3s.

Public Appointments

JANUARY 20.

Beverley.—Architectural Assistant.—County Architect, County Hall.

***Kingston-on-Thames.** — Draughtsman, required by the Surrey C.C. Clerk, County Hall.

JANUARY 21.

Chichester.—Architectural Assistant (Temporary) required by West Sussex C.C. County Architect, North-st.

JANUARY 28.

***Chester.**—Quantity Surveyor. County Architect, Newgate-st.

***Hinckley.**—Clerk of Works. Clerk, Church-st.

JANUARY 29.

***Leicester.**—Junior Architectural Assistant. City Engineer, Town Hall.

JANUARY 30.

***Caernarvon.** — Architectural Assistant. Clerk, County Offices.

JANUARY 31.

***Dundee.**—Architectural Assistant. D. S. McKay, B.Sc., City Engineer, 91, Commercial-st

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council: R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board; Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Accrington.—T.C. having plans prepared for plunge bath.

Airdrie.—Proposal been made for poorhouse. Burgh Architect, John Fraser, Main-st.

Ashton-in-Makerfield.—Plans approved for alterations to Park-lane Club premises, Downhall Green-rd. Extensions to parish hall of Our Lady's, Downhall Green-rd., for Rev. Father Turner.

Auchinloch.—Lanarkshire E.C. to erect school. Architect, J. Stewart, Public Works Offices, Albert-st., Motherwell.

Banbury.—T.C. approved purchase of land at Easington, for housing purposes. Application to be made to M.H. for £6,500 for scheme.

Barnsley.—Additions and alterations, Providence Hotel, Park-rd., for J. Tetley & Son, Ltd., Hunslet-rd., Leeds. Plans by Kitson, Parish, Ledgard & Pyman, FF.R.I.B.A., architects, Lloyd's Bank-chams., Vicar-lane, Leeds.—Premises in Pontefract-rd. for Committee of Lundwood Working Men's Club and Institute. Plans approved by T.C. Architect, D. B. Jenkinson, A.R.I.B.A., Imperial-bldgs., High-st., Rotherham.

Bath.—City S. to prepare estimates for alterations at 28 and 28a, Southgate-st.—Plans prepared for alterations to 3, York-bldgs.—Mr. W. A. Williams, architect, to be appointed to advise managers of Kingsmead Council school and to prepare plans for suggested alterations.—Committee been appointed to consider provision of conveniences in Moorland-rd. and Southdown districts.—Council considering reconstruction of Windsor-bridge.—Corporate Property Committee reported site available for public convenience in basement of Guildhall as soon as alternative accommodation could be found for staff at present using rooms.—City E. submitted amended sketch plan for underground conveniences in Orange-grove, at £8,250.—City E. submitted a plan showing portion of land on Odd Down, for erection of shops.

Biggar.—Public office to be erected by Lanarkshire Council. Architect, P. Smith, County Architect, County-bldgs., Hamilton.

Bingley.—Board of Management of Bingley Hospital propose to erect additions to buildings for an X-ray and out-patients' department, estimated to cost £1,000.

Bolton.—Plans been completed for a memorial hall in Lonsdale-rd. for Trustees of St. Margaret's Church. Architect, F. R. Freeman, L.R.I.B.A., 21, Wood-st.

Brodbury.—U.D.C. to erect houses on Compstall-rd., Cherry Tree estate, and on site at Harrytown.

Bridlington.—T.C. under consideration construction of reservoir.

Burton-on-Trent.—Grammar school to be extended.

Cardiff.—City Treasurer given to T.C. cost for alterations to school buildings amounting to £23,945, and furniture and fittings £8,570.

Carmyle.—Lanarkshire C.C. decided to erect 32 houses. Architect, P. Smith, County-bldgs., Hamilton.

Castleford.—Plans approved include alterations "White Hart," Carlton-st., for Bentley's Yorkshire Breweries, Ltd.—U.D.C. proposing extensions to Maternity Home. Plans by S.

Castleford.—West Riding E.C. have approved extensions to grammar school at £8,200. Plans by County Architect, H. Wormald, A.R.I.B.A., County Hall, Wakefield.

Chesterfield.—E. and S. prepared plans for works of sewerage and sewage disposal for parishes North Wingfield and Rilsley. Estimated cost is £10,776.

Cork.—Vocational E.C. requested Corporation to raise loan of £60,000 to build school of commerce.

Darlington.—Following plans submitted by Council to Unemployment Grants Committee approved:—Extension of public baths; River Skene improvement; piling of Victoria Embankment.

Derby.—Co-operative Wholesale Society, Ltd., propose to extend works at Stockbrook-st., and to extend factory in Abbey-st. Plans by Architect's Department, Co-operative Wholesale Society, Ltd., Balloon-st., Manchester.

Doncaster.—R.D.C. engaged D. Balfour & Sons, civil engineers, 3, Nicholas-bldgs., Newcastle-on-Tyne, in connection with houses on Moss-rd., Askern.

Durham.—W. J. Merrett, C.S. for Council, submitted plans and estimates to Works Committee for road through Durham City. Cost £148,348.

Ealing.—T.C. approved:—Horsenden-lane (60-70 even), 6 houses, Linden-crescent (1-11 odd), 6 houses, Elton-av. (85-95 odd), 6 houses, Walton Heath Land Co., Ltd., architects, R. Costain & Sons, Ltd., 7, and 8, Norfolk-st., Strand, W.C.2; Cuckoo Villas, Greenford-av. (1-10), 10 houses, Tucker & Warren, architect, R. J. Ward, 107, Uxbridge-rd., Ealing, W.5; Hanger-lane, 12 houses, R. Lancaster & Sons, architect, S. H. West, 40, The Broadway, Ealing, W.5; Hanger-lane, 24 houses, R. Lancaster & Sons, architect, S. H. West; Twyford-crescent, 12 houses, R. Lancaster & Sons, architect, S. H. West; The Broadway, W.13 (104 and 106), shop, G. Ravenshear & Amery Parkes, architects, Hall-Jones & Dewhirst, Ealing; Carr-rd. (1-27 odd and 2-56 even), 42 houses, Castle-rd. (1-35 odd and 2-28 even), 32 houses, Briar-crescent (1-71 odd and 2-60 even), 66 houses, Ribblesdale-av. (1-111 odd and 2-112 even), 112 houses, J. & J. H. Boothman (1930), Ltd., architect, W. R. Davidge, 5, Victoria-st., S.W.1; Boston-rd., 19 shops with flats over for Albemarle Estates, Ltd., architects, Hall-Jones & Dewhirst, Ealing; High-st. (29 and 30), alterations and additions, E. H. Timpson, architects, Nesbitt Kemp & Son, 34, Bonser-rd., Twickenham; Abbey-rd., additions to factory for Park Royal Coachworks, Ltd., architects, Dunsmore Bros., Survey House, Brockley Rise, Honor Oak Park, S.E.23; Abbey-rd., additions to factory, Park Royal Coachworks, Ltd., builders, Boulton & Paul, Ltd., 139, Queen Victoria-st., E.C.4; Charlbury-grove, building line to St. Benedict's Church, architects, F. A. Walters & Son, 28, Great Ormond-st., Queen-sq., W.C.1; St. Mary's-rd., alterations 38, W. J. Hutchings, architect, S. H. West, 40, The Broadway, Ealing, W.5; The Broadway, alterations and additions 50, Meakers, Ltd., 91, Shaftesbury-av., W.1; Long-drive, boiler-house and garage, Aladdin Industries, Ltd., architects, Nicholas & Dixon-Spain, 19, Hanover-sq., W.; Pitshanger-lane, alterations and additions 96, Express Dairy Co., Ltd., architect, F. J. Potter, 24, John-st., Bedford-row, W.C.1; Ruislip-rd., additions to "Red Lion," Watney, Combe, Reid & Co., Ltd., architects, P. J. Fisher & Son, 35, John-st., W.C.1; Brunswick-rd., Greystoke estate, transformer chamber, Electricity Supply Dt.; Hamilton-rd., alterations and additions and 20 garages, 53, for J. S. Latham, builder, F. Secrett; 54, The Grove, W.5; Cleveland estate, part Cleveland-rd., part Kingsley-av., Hathaway-gardens, G. Wimpey & Co., Ltd., The Grove, Hammersmith, W.6; Priory Park estate, Tryford-crescent, St. Augustine's-av., Lytham-grove, St. Anne's-gardens, R. Lancaster & Sons, architect, S. H. West, 40, The Broadway, Ealing, W.5; Briarhill estate, Northolt, Carr-rd., Briar-crescent, Castle-rd., Ribblesdale-av., J. & J. H. Boothman (1930), Ltd., architect, W. R. Davidge, 5, Victoria-st., Westminster, S.W.; Cuckoo estate, Cuckoodene Elmbank-way, Brookbank-av., Bridge-av., A. J. A. Taylor & Co., Ltd., architect, H. S. Steel, 289, Northfield-av., W.5.

Eastbourne.—T.C. approved:—Corporation, electric sub-stations, St. Anne's-rd. and Lewes-rd.; G. Ellis, P. D. Stonham & Son, architects, alterations, "Albion Hotel," Marine-parade; Corporation, conveniences, "Manor House-grounds," Compton Place-rd.; Governors of Princess Alice Hospital, T. A. Pole, architect, M. Martin & Sons, builders, alterations and additions, Princess Alice Hospital, Carew-rd.; T. C. Fairbrother, Scales & Baker, architects, conversion into four flats, also three lock-up garages, "Mirasol," Granville-rd.; M. A. Thompson, Scales & Baker, architects, alterations and additions, "Park Gates Hotel," Compton-st.; S. D. Foulkes, W. R. Hamblyn, architect, S. D. Foulkes, builder, five pairs of semi-detached houses, Longland-rd.; Paine, Rogers & Co., Ltd., P. D. Stonham & Son, architects, warehouse with flats over, Junction-rd.; W. J. Whyman, P. D. Stonham & Son, architects, rebuilding premises, 210 and 212, Seaside.

East Ham.—C.B. to modify plans for extensions to Central baths.—M.T. sanctioned £3,462 in respect of work in connection with reconstruction of Manor-pk. station bridge.

Epping.—U.D.C. recommended that part of field, near brewery in Lindsey-st., owned by Copped Hall Estate, be purchased for erection of 30 houses.

Fleetwood.—Lancashire C.C. to provide elementary school for 300 children. Plans by County Architect, S. Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston.

Gillingham.—T.C. approved:—F. B. Hooper, for W. H. Holden, 6 pairs villas, Twydall-lane; F. T. Mattocks, for Durling Bros., 4 brick bungalows, between plots 92-144, Edwin-rd., Rainham; Wm. G. Ingram, for H. G. Fatherby, 16 houses, Courtfield estate; R. H. Turner, Timothy White, Ltd., alterations and additions, 125, High-st.

Glasgow.—Corporation yard, offices and bothy to be constructed at Springburn, Kippockhill-rd.—Reconstruction scheme at 180-188, Garscube-rd. Architect, W. Wright, 1, Blytheswood-sq.—Plans ready for Court for business premises, 15 to 17, Ardholm-st. Architects, Wylie, Wright & Wylie, 204, West Regent-st.—Garage and offices at Cathcart-rd., Pollockshaws. Architect, J. Easton, 98, Lincoln-av., Knightswood.—Plans ready for electricity sub-station, Cannock-st., Ibrox.—Plans prepared for extension to St. Agnes' school. Architect, W. McCraig, Education Department, Bath-st.—Plans prepared for garage at Anniesland. Architect, T. Somers, M.Inst.C.E., George-sq.—Plans coming before Court for extension to Royal Asylum for Blind.—Council to erect bowling pavilion at Murano-st.—Plans prepared for alteration to drapery warehouse, Candleriggs. Architect, G. Beswell, 256, West George-st.—Saxone Boot and Shoe Co., Ltd., to have premises at Buchanan-st. reconstructed. Architect, J. Carruthers, 209, Saint Vincent-st.

* See also List of Contracts, Competitions, etc.

Glasgow.—Extension and reconstruction to warehouse, 279 to 287, Argyll-st., for Inglis, drapers, Oswald-st. Architects, R. Crawford & Son, 58, Bath-st.—Electrical sub-station at Barlock-st. for Corporation. Architect, T. Somers, George-sq.—Reconstruction scheme at Argyll-st. for L. and N.E.R. Architect, Andrew McGaw, Burnbank.—Kinning-pk. halls to be reconstructed. Architect, T. Somers, George-sq.—Reconstruction and addition, "Sunday Post," Port Dundas-rd. Architect, R. Gibson, 2, India-bldgs., Dundee.—Pattern warehouse, Woodville Engineering Works, Woodville-st., Govan. Plans by Blairs, Ltd., own architects.—Garage for Maver & Coulson, Ltd., engineers, at 60 to 74, Broad-st., Bridgeton. Plans by firm's own architect.—Schedules prepared for church for Presbytery of Glasgow. Architect, J. T. Thomson, 212, Bath-st.

Godalming.—Plans prepared by B.S. for conveniences and baths at Holloway Hill recreation ground. Cost estimated at £390, tenders to be invited.

Greenock.—New ladies' and gent's conveniences to be erected. Architect, Corporation Master of Works, R. Miller.—Demolition and erection scheme, large corner premises for shops, bakery, tea-rooms, etc., Charles-st., corner Hamilton-st. Architect, F. Petrie, Wallace-sq., Greenock.

Hartlepool.—T.C. to erect 78 houses between Town Hall and High-st.

Harworth.—New pit-head baths for Harworth Colliery Co., by the Miners' Welfare Committee. Plans by J. H. Forshaw, architect, Mines Dept., S.W.1. Tenders invited.

Hayes.—Edwards & Thomson, estate agents, Southall, submitted to U.D.C. plans of survey of Station-rd. from Silverdale-rd. to Brown & Edwards, showing Working Men's Club, together with block plan of proposed new shops to be erected by Mr. Hartley.

Hebden Bridge.—Regarding proposed indoor baths scheme, estimate to cost £12,300, secretary to Unemployment Grants Committee informed Council that they were prepared to consider application in respect of proposed works.

Horsforth.—Plans approved for equipment chamber, Scotland-lane, for Electrical Distribution.—S. to prepare scheme for 50 houses on housing site for U.D.C.

Ilfracombe.—Contract been signed by Rev. Norman Chivers, vicar of Christ Church, Ilfracombe, which secures site in High-st. occupied by Regent Hotel for new church, which is to be built at £7,000.

Leatherhead.—M.T. held inquiry regarding order made on behalf of Surrey C.C. for compulsory purchase of lands in respect of Leatherhead by-pass.

Leeds.—Tenders invited by the Leeds and Wakefield Brewery Co., Ltd., for reconstruction of the "Clothiers' Arms," Dewsbury-rd., Wakefield. F. Simpson, architect.—Tenders invited by A. & F. Mosleys, Ltd., on behalf of Leeds and Batley Properties, Ltd., for public-house in Providence-st.

Liverpool.—T.C. recommend that piece of land on east side of proposed road from Northway to Mossspite-lane be transferred to E.C. as site for new Holt secondary school, in place of previous site.—Scheme is being proposed for new site for fish market in Houghton-st.—E.C. are to demolish and rebuild Roscommon-st. Council school. Land Steward and Surveyor prepared plans.—Application to be made to M.H. for appropriation of site fronting to Townsend-av. for purpose of school clinic and maternity and child welfare centre, and for sanction to borrow £4,469 in respect of alterations and additions to St. Augustine's Council school, and £3,953 in respect of preparation of Scargreen-av. playing field, Norris Green estate, including the provision of iron railings and entrance gates.—It is being proposed that Housing Committee report upon advisability of area adjacent bounded by Hop-st., Bancroft-st., Upper Parliament-st. and Falkner-st. be acquired for providing new housing accommodation.—Two pieces of land, containing together about five acres, in Abingdon-rd., Walton-Clubmoor estate Park Belt to be transferred to E.C. for new school.

Liverpool.—Plans for proposed stadium which is to cost £60,000 approved by Heath Committee.

Macclesfield.—T. H. Walters, architect and surveyor, Moody-st., Congleton, preparing plans for housing scheme at Butley for R.D.C.

Maidenhead. — T.C. considering extensions to electricity works. B.E. has prepared scheme to cost £9,500.—Housing Committee reported that Salters' Company had accepted Council's offer for purchase of land on both sides of Boyn Valley-rd. M.H. approved plans showing 60 houses on site, and recommended B.S. to prepare plans and specifications for 30 houses and invite tenders.

Manchester.—C. H. Stott & Son, 3, St. James'-sq., Manchester, are quantity surveyors for extensions in Whitworth-st., estimated to cost £250,000, for Refuge Assurance Co., Ltd. S. Birkett, A.R.I.B.A., architect, 16, John Dalton-st. Tenders now being invited.

Manchester.—J. W. Beaumont & Sons, FF.R.I.B.A., architects, 24, Brazennose-st., have large scheme on hand for rebuilding premises for Affleck & Brown, Ltd., Oldham-st., Manchester.

Matlock.—W. H. Radford & Son, consulting engineers, Albion-chams., King-st., Nottingham, submitted proposals for Tansley and Cromford water schemes, to cost £9,000.—J. Simpson, architect, to prepare layout of land off Starkholmes-rd. for houses.

Mountcharles.—Co. Donegal Board of Health to apply for £5,000 for waterworks for Cardonagh, and £1,000 for Mountcharles waterworks.

Newbury.—T.C. to purchase site on the northern side of London-rd. for housing.

Newcastle.—Church Extension Committee propose church hall in Roman-av., Byker. Cost £3,000. Secretary, Rev. S. Fenning, 8, Pearls-bidgs.—City Council recommended Town Moor and Parks Committee to purchase Jesmond House and surrounding grounds at £11,000.

Newton Abbot.—R.D.C. considering plans for 25 houses at Aller Vale, Abbotskerswell.

Nuneaton.—T.C. received sanction to borrow £4,797 for works of sewerage on Whitestone estate.

Oxford.—T.C. to enlarge St. Giles' ladies' conveniences.—Council propose 2,500 houses during next five years.—E.C. proposing further school accommodation.—Plans by Moss & Sons for lay-out estate at Cowley, east of between Towns-rd., Cowley (formerly known as High-st.) been approved.—City E. submitted plans of pumping station at Swinford, which were approved and forwarded to consulting engineers.—Council sanctioned: 42 flats or smaller number of cottages on Oxpens, £22,000, and extension municipal buildings and new premises for Wyatt & Son, £20,000.—Oxford Ice Skating Rink Co., extension Ice Rink, Botley-rd.; Ushers' Wiltshire Brewery, alterations to "Albert Arms," Albert-st.; Oxford City Football Club, spectators' stand, White House-rd.; Paint & British Lacquer Co., Cowley, office block at works; Wingfield Orthopædic Hospital, rebuilding of wards and offices; Northampton Brewery, alterations to "Radcliffe Arms," Cranham-st.; N. Moss & Son, Rose Hill estate, 82 houses, new estate off between Towns-rd.; L. J. Davies & Co., Abersychan, 12 houses, new road, off Forest-rd., on Shotover estate.

Peterborough.—City Council decided to buy site west of Fulbridge-rd. playing field for Paston-lane School, at £2,060.—Council to apply for sanction to building and new school site of junior mixed department, with probable accommodation for 300 children.

Pinner.—Plans for alterations to "The Sterling" approved by sessions.

Plymouth.—T.C. approved:—A. E. Searle & Son, 10 bungalows, Plaistow-crescent; Octagon Brewery, Ltd., alterations and additions, "Laira Hotel," Laira-place; S. Tellam & Son, 4 houses, Breen Park-rd; J. Binmore, 4 houses, North Down-rd.; W. G. Perkins, 11 houses, Kent-rd.; Phœnix Assurance Co., Ltd., office building, Princess-sq.

Pontefract.—T.C. propose house on Fairground site for bath's manager, and house on Headlands estate for markets' superintendent.

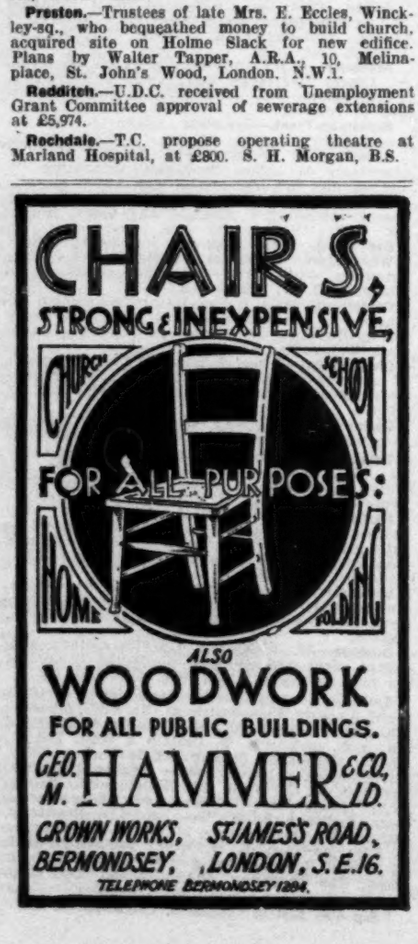
Port Laoighise.—District Mental Hospital Committee applied for £8,500 for installing central heating system at hospital.

Portsmouth.—T.C. approved:—Parnell Bros., alterations and additions, Frodden-bldgs., Fratton-rd.; W. E. Ekera, 5 houses and garages, Kensington-rd.; Tanner Bros., for R. L. Luck, business premises, Baffins-rd.; Portsmouth and Brighton United Breweries, new public-house, London-rd., Hilsea; Timothy Whites, shops and flats, London-rd., North End; A. Le Santo, 4 houses, Merrivale-rd., North End.

Preston.—Trustees of late Mrs. E. Eccles, Winckley-sq., who bequeathed money to build church, acquired site on Holme Slack for new edifice. Plans by Walter Tapper, A.R.A., 10, Melina-place, St. John's Wood, London, N.W.1.

Redditch.—U.D.C. received from Unemployment Grant Committee approval of sewerage extensions at £5,974.

Rochdale.—T.C. propose operating theatre at Marland Hospital, at £800. S. H. Morgan, B.S.



Rotherham.—B.E. to prepare plans for 50 houses for aged persons on Herringthorpe site for Corporation.

Rugby.—U.D.C. approved:—alterations, 38, Regent-st., Farren & Co.; additions to Hospital of St. Cross, Board of Management, Hospital of St. Cross.

St. Albans.—R.D.C. decided to purchase 3½ acres of land adjoining Council's existing housing site at London Colney, from Herts C.C., for additional housing scheme.

St. Helens.—T.C. approved:—new school, Lascelles-st. and South John-st., Holy Trinity Church of England School.

Sheffield.—T.C. received sanction of M.H. to borrowing £47,101 for houses and extensions of gas mains on Shiregreen estate.—It is proposed to purchase land abutting on main road at Totley Rise, for housing purposes.—Estates Committee agreed to take from Water Committee 8½ acres of land situate between Bole Hill-rd. and Rivelin Valley-rd.

Sheffield.—Wesleyan Methodist Connexion proposing Sunday school at Grenoside, for Brungreave-rd. Circuit. Plans by G. R. Bowers, 13, St. James-row.

Southend.—It is proposed to complete All Saints' Church. Sir Charles Nicholson, F.R.I.B.A., 2, New-sq., Lincolns Inn, W.C.2, prepared sketch plans.

South Mimms.—Plans approved by R.D.C. for 2 pairs of semi-detached houses in new road, J. Wickens & Co.; 6 pairs semi-detached houses, new road, for —. Champ; 3 pairs semi-detached bungalows, new road, for —. Hicks.

Spennymoor.—U.D.C. approved unemployment relief schemes, estimated to cost £9,641.

Stalybridge.—Local Labour Party raising funds for new headquarters.

Stanley.—U.D.C. to acquire Moor House estate for additional houses. M.H. sanction obtained.

Stockport.—New secondary school for boys to be erected providing accommodation for 500 pupils, and Building Sites Sub-committee to be instructed to have plans, etc., prepared.

Sudbury.—Sessions have approved alterations to "Swan Hotel." Cost £3,000.

Sunderland.—T.C. approved plans for alterations and extensions to Sunderland and Durham Institute for Blind.

Sunderland.—Corporation received sanction to borrowing of £6,350 for shelters and public cloak-room at Seaburn.

Tadcaster.—R.D.C. propose houses comprising 20 at Sherburn, 44 at Tadcaster, 52 at Swillington and 12 at Barwick, at £51,500.

Tannockside.—Lanarkshire Council to erect 56 houses at Tannockside. Architect, P. Smith, County Buildings, Hamilton.

Twickenham.—B.E. has estimated various main drainage schemes, as follows:—Whitton Scheme (north of railway), £20,680; Heathfield Scheme (south of railway), £77,180.—Council propose £45,300 for Kneller Senior School.

Uckfield.—12 houses to be built for R.D.C.

Uxbridge.—U.D.C. approved:—Denziloe-av., Hillingdon, 6 houses, A. A. Carter; Hoylake-cres. and Copthall-rd., Ickenham, 3 bungalows, R. O. McGown, Ltd.; Dawley Court estate, Hillingdon (West Drayton-rd.), 27 bungalows, W. G. Chapman & Son, Ltd.; Court-drive, Hillingdon, 5 houses, R. H. Wale, Ltd.; Rockingham-rd., Uxbridge, additions to "Dolphin" public-house, Harman's Uxbridge Brewery, Ltd.; Corwell-lane, Hillingdon, transformer chamber, Uxbridge and District Electric Supply Co., Ltd.; St. John's-rd., Uxbridge, Church Hall, St. John's, Uxbridge Moor Church Council.

Wakefield.—Patons & Baldwins, Ltd., propose extensions at Denby Dale-rd. Mills, Newbald & Hartley, architects.—City Housing Architect to proceed with 500 houses by direct labour.

Warrington.—Plans for new Warrington bridge to span River Mersey at Manor Locks to be submitted to council for approval.

Wealdstone.—Sessions approved alterations to "Royal Oak." Cost £6,500.

Westhoughton.—Application being made to M.H. for £37,045 for senior Council school for girls and alterations to existing Council school. Plans by S. Wilkinson, F.R.I.B.A., 16, Ribblesdale-place, Preston.

West Riding.—E.C. to erect elementary school for 340 children at Crigglestone and caretaker's house. County Architect, H. Wormald, A.R.I.B.A., County Hall, Wakefield.—E.C. to erect new school at Brierley, accommodation for 650 scholars.

Winchester.—T.C. approved plans by City E. for alterations and extensions to public conveniences in Broadway.—City E. reported to Roads Committee that he had received from C.S. plans and sections of by-pass road, near Guildford and Petersfield roads, and asking for consent to make temporary by-pass at bridge on Guildford-rd. and bridge over Petersfield-rd. City E. to prepare plans for additional 60 houses at Battery Hill.

Wolstanton.—S. to U.D.C. prepared plans for 150 houses on Little Dimsdale site.

Wolstanton.—U.D.C. acquired site for mining centre in connection with senior school.

Wolverhampton.—T.C. approved:—F. W. Jones, 8 garages, Stafford-rd., Oxley; J. McLean, 6 pairs of houses, McLean-rd.; James Beattie, Ltd., extensions to stores arcade and alterations to cinema and shops, 69, Victoria-st.; G. H. Guest, 2 pairs of villas, Oxbarn-av.

Worcester.—E.C. to appoint architect residing locally to prepare plans for school.

York.—Electricity Committee to erect two transformer stations on Heworth Green estate.

York.—M.H. held inquiry into proposal of City Council to build swimming and slipper baths in Leman-rd.

PRICES CURRENT OF MATERIALS.*

Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 3 6
Second Hard Stocks	3 18 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons, at King's Cross	2 12 3	Best Blue Pressed Stocks	9 5 0
Do., grooved for Plaster	2 14 3	Do. Bullnose	9 15 0
Do., Bullnose	3 7 3	Blue Wire Cuts	7 5 0
White Midhurst Facing Bricks (delivered London site)	5 0 0		

Best Stourbridge Fire Brick:—
2½ in. 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory and Sal Glazed Stretcher	21 0 0	D'ble Stretchers	29 10 0
		D'ble Headers	26 10 0
		One Side and two Ends	30 10 0
Headers	20 10 0	Two Sides and one End	31 10 0
Quoins, Bullnose and 4½ in. Flats	27 10	Splays, and Squints	28 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS
Delivered London

	s. d.		s. d.
2 in. per yd. super.	1 11	3 in per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.	
Thames Ballast	8 0 per yd	delivered 2 miles radius Paddington.
Pit Sand	11 0 " "	
Thames Sand	11 0 " "	
Best Washed Sand	11 6 " "	
½ in. Shingle for Fer o Concrete	8 6 "	
¾ in.	11 0 "	
¾ in. Broken Brick	10 6 "	
Pan Breeze	8 "	

Per ton delivered in London area in full van loads. Best Portland Cement. British.
Standard Specification. Test £2 6 0 to £2 8 0
30s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 7 6	Roman Cement	8 15 0
Vitrocrete " "	0 7 6	Parian Cement	5 15 0
Super Cement (Waterproof)	3 16 0	Keene's Cement, White	5 15 0
Cimex Fondu (F.O.R. Works)	4 15 0	" " Pink	5 10 0
		Plaster, Coarse, Pink	3 0 0
		" " White	3 12 6
		" Fine	5 12 0
		Sirapite, Coarse	3 9 0
		" Finish	3 17 0
		Grey Stone Lime	2 10 9
		Chalk Lime	2 10 9
		Best Ground Blue Lias Lime	17 6
		Hair per cwt.	2 2 6
		Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.
Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dp.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube 2 10

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. per ft. cube 3 1½
Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE.—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 4½
Do. do. delivered on road wagons at above stations, per ft. cube 4 5½
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft *average*, and ½d. beyond 30 ft.

CHILMARK—RANDOM BLOCK—
At Nine Elms, per ft. cube 2 11

HOPTON-WOOD STONE.—
F.O.R. Quarries, Wirksworth, Derbyshire, s. d.
Random blocks from 10 ft. and over P. ft. cb 14 0
Sawn two sides " " 22 6
Sawn three or four sides " " 27 6

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London
6 in. sawn two sides landings to sizes (under 30 ft. super) Per ft. super 5 6
6 in. rubbed two sides, ditto " 6 0
3 in. sawn two sides slabs (random sizes) " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) " 1 6½
1½ in. to 2 in. ditto, ditto " 1 3½

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super 5 1½
6 in. rubbed two sides, ditto " 6 1½
4 in. sawn two sides slabs (random sizes) " 2 1½
3 in. ditto ditto " 2 10
2 in. self-faced random flags Per yd. super 8

CAST STONE

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£27 10	3 × 6	£20 0
4 × 9	26 0	3 × 11	22 0
4 × 8	25 0	2 × 11	23 0
4 × 7	23 0	3 × 9	22 0
3 × 8	20 0	2½ × 9	22 0
3 × 7	20 0	3 × 4½	20 0
2½ × 7	20 0	3 × 4	20 0
1 × 11	£28 0	1 × 9	£26 0

PLANED BOARDS.

PLAIN EDGE FLOORING

Inches	per sq.
½	18/-
¾	20/-
1	23/-

Inches.	per sq.
1½	29/-
1¾	33/-

TONGUED AND GROOVED FLOORING

Inches.	per sq.
1	24/-
1¼	30/-
1¾	34/-

MATCHING (BEST).

Inches.	per sq.
½	16/6
¾	19/-
1	24/-

Ins. BATTENS	s. d.
½ × 2 per 100 ft.	2 6

SAWN LATHS. s. d
Per bundle 2 0

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	£4 10 0 to —
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 0 0	18 by 10	17 5 0
22 by 12	27 19 6	18 by 9	15 10 0
22 by 11	25 5 0	16 by 10	14 14 6
20 by 12	24 7 6	16 by 8	11 5 0
20 by 10	20 17 6		

TILES

Delivered at London rate stations in full truckloads of not less than 6 tons. Per 1,000, f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 2 6
ditto hand-made ditto	5 7 6
Ornamental ditto	5 12 6
Hip and valley tiles (per dozen) { Hand-made	0 9 6
{ Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.—To London Station, per ton

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	⅞ in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Tubes. Wrought Mild Steel.	Tubes. Genuine Staffs. Iron.	Fittings. ½ in. and under.	Fittings. Over ½ in.	Flanges. ½ in. and under.	Flanges. Over ½ in.
	%	%	%	%	%	%
Gas	65	52½	45	47½	55	57½
Water	61½	48½	40	42½	50	52½
Steam	57½	45	35	37½	45	47½
Galv. gas	52½	40	35	37½	45	47½
Galv. water	47½	35	30	32½	40	42½
Galv. steam	42½	30	25	27½	35	37½

*C.I.—HALF-ROUND GUTTERS—London Prices ex Works

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	10d.	7½d.	2½d.
3½ in.	10½d.	8½d.	2½d.
4 in.	10½d.	9½d.	2½d.
4½ in.	11½d.	10½d.	2½d.
5 in.	1/1½	11½d.	3½d.
	*O.G. GUTTERS.		
3 in.	1/0	10½d.	2½d.
3½ in.	1/0½	10½d.	2½d.
4 in.	1/1½	10½d.	2½d.
4½ in.	1/2½	1/0½	2½d.
5 in.	1/5	1/2½	3½d.

*RAIN-WATER PIPES, &c.

Per yd. in 6 ft.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/2½	9½d.	1/2
2½ in. "	1/3	10½d.	1/4½
3 in. "	1/6½	1/1½	1/8½
3½ in. "	1/11	1/4½	1/11½
4 in. "	2/2½	1/7½	2/4½

*The above R.W. Goods prices are subject to an advance of 5% from October 29th, 1929.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 5	1 9	2 1
2½ in. "	2 9½	1 10½	2 7
3 in. "	3 0	2 1	2 1
3½ in. "	3 3	2 7	3 7
4 in. "	3 8	2 11	4 1½

L.C.C. COATED DRAIN PIPES—London Prices ex Works

	Pipe, angles, stock angles.	Bends, stock Branches.
	s. d.	s. d.
3 in. per yd. in 9ft. lengths	3 6	4 6
4 in. " "	4 8	5 6
5 in. " "	6 3	9 —
6 in. " "	7 3	1 6

	s. d.	s. d.
3 in. per yd. in 9ft. lengths	3 6	4 6
4 in. " "	4 8	5 6
5 in. " "	6 3	9 —
6 in. " "	7 3	1 6

	7	9	15	0		
	10	0	19	0		

Gaskets for jointing 4½/- per cwt.

IRON—

	Per ton in London. £ s. d.		£ s. d.
Common bars	11 0 0	to	12 0 0
Staffordshire Crown Bars—Good merchant quality	11 5 0	to	12 5 0
Staffordshire Marked Bars	14 0 0	...	15 0 0
Mild Steel Bars	9 10 0	...	10 10 0
Steel Bars, Ferro-Concrete quality, basis price	9 0 0	...	10 0 0
Hoop iron, basis price	11 0 0	...	12 0 0
" Galvanised	27 0 0	...	28 0 0

Soft Steel Sheets, Black—

Ordinary sizes, to 22 g.	11 10 0	...	12 0 0
" " " 24 g.	13 0 0	...	14 0 0
" " " 26 g.	15 0 0	...	16 0 0
Sheets Flat Best Soft Steel, C.R and C.A. quality—Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	14 10 0	...	15 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. by to 3 ft. to 26 g.	18 10 0	...	19 5 0

No. 1 quality £4 per ton extra.

Flat and Galvanised Corrugated Sheets—

Ordinary sizes, 6 ft to 9 ft. to 20 g.	15 0 0	...	16 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	15 10 0	...	16 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	18 10 0	...	19 10 0

Sheets Galvanised Flat, Best quality—

Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	20 10 0	...	21 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	22 10 0	...	24 10 0
Best Soft Steel Sheets, 26 g.	24 0 0	...	25 0 0
Cut Nails, 3 in. to 6 in.	16 0 0	...	17 0 0

Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet. English, 4 lb. and up	24 0 0
Pipe in coils	24 10 0
Soil pipe	27 10 0
Compo pipe	28 10 0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt extra. Cut to sizes, 6s. cwt. extra.

Old lead, ex London area, at Mills per ton	£14 0 0

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	1 3
Strong sheet "	1 0
Thin "	1 1
Copper nails "	1 7
Copper wire "	1 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz

CAPS AND SCREWS.

1½ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1¼ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN.—English Ingots, 1/5 per lb. SOLDER.—Plumber's 8d., Tinmen's 10d., Blowpipe 11d. per lb.

PAINTS, &c.

Raw Linseed Oil, in pipes per gallon		0 2 3
" " " in barrels "		0 2 5
" " " in drums "		0 2 6
Boiled " " in barrels "		0 2 8
" " " in drums "		0 2 10
Turpentine in barrels "		0 3 3
" in drums (10 galls) "		0 3 5
Genuine Ground English White Lead, per ton		45 10 0

(In not less than 5-cwt. casks.)
Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*cont.*)

PAINTS, &c.—(*cont.*)

		£	s.	d.
GENUINE WHITE LEAD PAINT. "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polsco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5 cwt. lots	per ton delivered	63	10	0
Red Lead, Dry (packages extra)	per ton	34	0	0
Best Linseed Oil Putty	per cwt.	0	15	6
Filleol	"	0	16	6
Size. XD quality	/kn.	0	3	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

Per ft.		Per ft.
15 oz. fourths .. 2½d.	32 oz. fourths	6½d.
15 ,, thirds .. 3½d.	32 ,, thirds	9d.
21 ,, fourths 3½d.	Obscured Sheet, 15 oz.	3½d
21 ,, thirds .. 4½d.	,, 21 oz.	4½d.
26 ,, fourths .. 4½d.	Fluted, 15 oz. 7d., 21 oz. 9½d.	
26 ,, thirds 6½d.	Em'lled, 15 oz. 4½d., 21 oz. 6d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES. Per ft.

¼ Rolled plate	4½d.
⅜ Rough rolled	5½d.
Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White	5½d.
Ditto, tinted	8½d.
Rolled Sheet	4½d.
White Rolled Cathedral	5d.
Tinned do.	7d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot. s.	d.
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural—for greenhouses, etc. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide	2	6

ULTRA VIOLET RAY GLASS.

RAYLITE.

Up to 2 sq. ft. 1/-. Up to 4 sq. ft. 1/2. Up to 8 sq. ft. 1/3.

FOREIGN.

HORTITEX (HORTICULTURAL).

Up to 1 sq. ft. 7d. Up to 2 sq. ft. 8d. Up to 3 sq. ft. 9d. (Not exceeding 24 in. by 18 in.)

Up to 4 sq. ft. 10d. Up to 8 sq. ft. 11d.

VARNISHES, &c.		Per Gallon. £	s.	d.
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Opal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	6
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	0
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water)		0	12	0
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cuirass Black Enamel		0	7	0

Building Industry Council of Review.

It appears that certain contractors have experienced difficulty in obtaining copies of the Interim Report recently issued by the Building Industry Council of Review. Copies of this report can be obtained from Messrs. P. S. King & Son, publishers, Great Smith-street, Westminster, S.W.1, and from the office of the Council, 5, Duke-street, Adelphi, price 6d.

Small Dwellings Acquisition: Rate of Interest.

By the Ministry of Health (Rate of Interest) Amendment Order, No. 2, 1930, dated December 23, 1930 (S.R. & O. 1081), the Minister of Health has now fixed 5 per cent. as the rate of interest at which local authorities after the date of the Order may make advances under the Small Dwellings Acquisition Acts. The Minister will be prepared to give consideration to an application for fixing some rate other than 5 per cent. in respect of any authority who are of opinion that, having regard to the terms at which they can raise loans or for other reasons, a different rate is required in their case.

THE SCOTTISH BUILDER

NEW BUILDINGS

Dundee.—EXCHANGE.—Messrs. J. B. Hay & Co., 61, South Tay-street, Dundee, have secured the contract for the erection of the Park Telephone exchange.

Edinburgh.—BUILDINGS.—A new main staircase, estimated to cost £10,000, is to be constructed in the Royal Scottish Museum, Chambers-street, Edinburgh. Warrant has been granted for the building of it and for other alterations in the museum by the Edinburgh Dean of Guild Court, who also granted alterations in the Scottish National Portrait Gallery in Queen-street. Amongst the other warrants granted were the following: City—alterations at Pilton Hospital, Ferry-road, Leith; City—school janitor's house, etc., at Restalrig-road; George Stuart M'Donald—nine bungalows at Redford-drive and Westgarth-avenue, Colinton; William Orr—two double bungalows at Craigleith-road; Trustees of St. Margaret's Shelter for Girls—alterations at 18, Dean-terrace; Wainwright & Williamson—complete seven lock-ups, erect 15 garages and lavatory at Greenbank-avenue; R. J. Robinson—six bungalows in Greenbank-drive.

Falkirk.—BUILDING.—At Falkirk Dean of Guild Court, warrant was granted to Messrs. Crawford and Thomson, cabinetmakers, to erect at Callendar Riggs, a two-story building comprising shop premises, office, and showrooms. The estimated cost is £3,000.

Glasgow.—HOSPITAL.—The erection of an auxiliary or convalescing hospital to relieve the pressure on the existing accommodation in the Royal Infirmary, Glasgow, was referred to by Mr. James Macfarlane, LL.D., chairman of the managers of the infirmary, at the annual meeting. Plans are in course of preparation for the erection of the buildings on ground at Canniesburn.

Hawick.—HOUSING.—The Hawick T.C. reported that the lowest tenders for the fifth instalment of the Thorterdykes Housing Scheme had been approved by the Department of Health.

Leith.—IMPROVEMENTS.—The Leith Dock Commission has resolved that the new grain elevator, which it is proposed to erect in place of that which was destroyed by fire, should be built at the Imperial Dock instead of on the old site at the Edinburgh Dock, Leith.

Motherwell.—SCHOOL.—The Dean of Guild Court for Motherwell and Wishaw has approved plans for the erection by Lanarkshire C.C. of a new school in Hamilton-street, Motherwell. The school will cost £40,000.

Near Falkirk.—BUILDING.—A contract has been signed for the building of the Scottish Regional transmitting station at Westerglen, near Falkirk. The successful firm is the Anglo-Scottish Construction Co., Ltd.

Perthshire.—ROADS.—The District Committee of West Perthshire roads programme for the current year include the widening and reconstruction of the Great West-road between Crianlarich and Tyndrum at a cost of £26,000, and the Aberfoyle-Trossachs road scheme.

BUILDING TRADE WAGES IN SCOTLAND*

The following are the present rate of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons'‡ Bricklayers'† Plasterers'.†
Aberdeen	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Airdrie	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Alexandria	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Arbroath	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Ayrshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Bathgate	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2 1/3
Berwickshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1½
Bo'ness	1/7	1/7	1/7	1/8	1/7	1/7	1/8	†1/2½
Broughty Ferry	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Clackmannanshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Coatbridge	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Dumbartonshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Dumfries	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Dumfriesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1½
Dundee	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Dunfermline	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Dunoon	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
East Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Edinburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Falkirk	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Forfarshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1½
Fort William	1/6	1/6	1/6	/7	1/6	1/6	1/8	1/2
Galashiels	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Glasgow	1/8	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Greenock	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2
Hamilton	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/3½
Hawick	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Helensburgh	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Inverness	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1 1/3
Inverurie	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/8	1/2
Kilmarnock	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	1/2½
Kincardineshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Kinross-shire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Kirkcaldy	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Kirkwall	1/5	1/5	1/5	1/6	1/5	1/5	1/8	1/-
Lanarkshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Leith	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Midlothian	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Motherwell	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/3½
Peeblesshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Perth	1/7	1/7	1/7	1/8	1/7	1/7	§1/8	1/2½
Perthshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1½
Peterhead	1/6½	1/6½	1/6½	1/7½	1/6½	1/6½	1/8	1/2
Renfrewshire	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Rothesay	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Roxburghshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1½
St. Andrew's	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Selkirkshire	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
Stirling	1/7	1/7	1/7	1/8	1/7	1/7	1/8	‡1/2½ †1/3½
Stirlingshire, West	1/6	1/6	1/6	1/6	1/6	1/6	1/8	1/1
Stornoway	1/6	1/6	1/6	1/7	1/6	1/6	1/8	1/1
West Lothian	1/7	1/7	1/7	1/8	1/7	1/7	1/8	1/2½
Wishaw	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/8	‡1/2½ †1/3½

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 166.

§ Perth painters are at present on strike against the reduction.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	,, ,,	1	0
Add for every additional depth of 6 ft.	,, ,,	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	,, ,,	1	0

CONCRETOR.

Portland cement concrete in foundation 1 to 6	per yard cube	38	0
Add if in underpinning in short lengths	,, ,,	7	0
Add if in floors 6 in. thick	,, ,,	3	3
Add if in beams	,, ,,	3	9
Add if aggregate 1 : 2 : 4	,, ,,	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	,, ,,	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	32	0	0
Add if in stocks	,,	7	10	0
Add if in Staffordshire blues	,,	22	0	0
Add if in Portland cement and sand	,,	1	10	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

Neat flat struck or weathered joint	,, ,,	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	,, ,,	0	0	10
Axed in stocks	,, ,,	0	1	9
Rubbed and gauged jointed in putty camber or segmental	,, ,,	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	,, ,,	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	,,	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	,, ,,	9	6
Three-quarter-inch on flats in two thicknesses	,, ,,	6	3
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	,, ,,	1	2

MASON.

York stone templates fixed	per foot cube	13 0
York stone sills fixed	,, ,,	22 0
Bath stone and all labour fixed	,, ,,	10 6
Beer stone and all labour fixed	,, ,,	15 0
Portland stone fixed	,, ,,	20 0
Chilmark stone fixed complete	,, ,,	17 6

SLATER.

Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72 9
Do. 20 in. × 10 in. Do. Do.	,,	80 9
Do. 24 in. × 12 in. Do. Do.	,,	90 0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	5 0
Do. joists	,, ,,	5 6
Do. roofs, floors and partitions	,, ,,	6 0
Do. trusses	,, ,,	8 6

		¾″	1″	1¼″	2″
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

Flat centering for concrete floor, including struts or hangers	,,	50 0
Do. to beams	per ft. sup.	0 11
Centre for arches	,,	1 6
Gutter boards and bearers	,,	1 0

FLOORING.

		¾″	1″	1¼″	1½″
Deal edges shot	per sq.	—	44/6	53/-	60/6
Do. tongued and grooved	,,	—	49/-	57/6	65/-
Do. matchings	,,	45/-	51/-	—	—
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/-	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	,, ,,	2	1
Add for fitting and fixing	,, ,,	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights : average size	,,	3	9

DOORS.

		1½″	1¾″	2″
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	,,	2/5	2/8	2/11
Two-panel moulded both sides	,,	2/8	2/11	3/2
Four-panel Do. Do.	,,	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	,,	1/4	1/6	1/9
Add if cross-tongued	,,	2d.	2d.	2d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1½ in.	per ft. run	0	9
Mahogany handrail : average, 3 in. × 3 in.	,, ,,	6	0
Add if ramped	,, ,,	12	0
Add if wreathed	,, ,,	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	,,	19	0
Do. stanchions	,,	21	9
In roofwork	,,	27	6

RAIN-WATER GOODS.

		3″	4″	5″	6″
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	,,	1/9	2/-	2/6	3/3
Rain-water pipes with ears	,,	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	,,	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	,,	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	44	0
Do. Do. in flats	,,	43	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	,, ,,	1	3
Copper nailing	,, ,,	0	3

		½″	¾″	1″	1½″	2″	4″
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	,,	1/8	2/2	2/7	3/10	—	—
Do. soil	,,	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	,,	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	,,	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	,,	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	,,	—	—	—	14/7	19/6	—
Bib cocks and joints	,,	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	,,	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	6
Do. Do. Sirapite	,, ,,	2	9
Do. Do. Keen's	,, ,,	4	0
Add saw lathing	,, ,,	1	7
Add metal lathing	,, ,,	2	6
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	,, ,,	2	2
Do. plain face	,, ,,	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	6

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	8½
26-oz. Do.	,, ,,	1	0
Obscured sheet	,,	1	1
¼-in. rolled plate	,, ,,	0	9
¼-in. rough rolled or cast plate	,, ,,	0	10½
¼-in. wired cast plate	,, ,,	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	,, ,,	0	7
Plain painting, 1 coat	,, ,,	0	9
Do. 2 coats	,, ,,	1	2
Do. 3 coats	,, ,,	1	9
Do. 4 coats	,, ,,	2	4
Graining	,, ,,	2	3
Varnishing twice	,, ,,	1	9
Sizing	,, ,,	0	3
Flatting	,, ,,	0	7
Enamel	,, ,,	1	1
Wax polishing	per foot sup.	0	6
French polishing	,, ,,	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges; A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

PATENTS

APPLICATIONS PUBLISHED.

338,247.—E. O. Cowper: Materials for roads and ways.

317,375.—E. I. Du Pont de Nemours & Co.: Floor-covering material.

338,621.—C. L. Turner: Railway stations and air-ports.

319,215.—Naamloose Vennootschap de Bataafsche Petroleum Maatschappij: Waterproof board.

338,664.—W. Reismann, R. H. Schloss, and W. H. Evers: Processes of making hydraulic mortar.

338,685.—B. L. M. Van Der Lande: Radiators.

338,708.—W. R. T. Sinclair, and J. W. Campbell: Combination bath and lavatory basin.

338,711.—W. E. Higgs, and A. Drew: Adjustable or folding scaffolds or platforms for workmen.

338,730.—Dr. R. Illner: Process for improving the physical properties of kaolin.

338,736.—L. Mandler: Foot-operated hinged covers.

338,755.—C. Schroder, sen.: Covering wire netting with solidifying concrete.

338,779.—A. W. Stewart: Cowl-heads.

Note.—Period for opposition expires February 5, 1931.

NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

Polimac, Ltd. (252,691). Registered December 12. To construct, lay down, repair and make roads, ways, paths, etc. Nominal capital, £100. A. D. Gardner, 140, Palace-view, Bromley, Kent.

MacIntosh & Thorne, Ltd. (252,686). Registered December 12. Gosfield-street, St. Marylebone. Builders and building contractors, decorators, timber merchants, etc. Nominal capital, £1,500.

Marble and Granite Trading Co., Ltd. (252,687). Registered December 12. 18-19, Craven-street, W.C.2. Marble, granite and stone merchants, etc. Nominal capital, £100.

Builders' Estimating Service, Ltd. (252,701). Registered December 13. Quantity surveyor and estimator. 12, High-street, Worcester. Nominal capital, £500.

Franks & Simons, Ltd. (252,651). Registered December 11. 340, Mile End-road, E. Builders, contractors and decorators. 21, Bancroft-road, Stepney Green, E. Nominal capital, £2,000.

Vulcanite, Ltd (F.2960). Trident Works, 7, Stars Bridge, Wigan. Asphalte and vulcanite roofing manufacturers, etc. Nominal capital, £150,000.

Bell's Asbestos (London) African Agency, Ltd. (F.2962). 157, Queen Victoria-street, E.C.4. To acquire, sell and deal in asbestos goods, etc. Nominal capital, £10,000.

Sanitary Paint Co. (1930), Ltd. (252,920). Registered December 20. Rimrose-road, Bootle, Liverpool. Manufacturers of and dealers in paints, colours, varnishes, pigments, oils, greases and oleaginous substances, etc. Nominal capital, £100.

Pipe and Cable Installations, Ltd. (252,918). Registered December 20. 47, Victoria-street, S.W.1. Engineers and contractors for the projecting, supply and erection or of conveying liquids, gas, air and steam, and cables and wires for the conveyance of electric power, etc. Nominal capital, £10,000.

Quality Homes, Ltd. (252,933). Registered December 20. 35, Finsbury-square, E.C.2. Builders and contractors, builders' merchants, etc. Nominal capital, £1,200.

Porous Pipes, Ltd. (252,850). Registered December 18. 52, Russell-square, W.C.1. Drain pipe, brick and tile manufacturers and merchants, etc. Nominal capital, £100.

TRADE NEWS

Whitelands College, Putney.

We learn that Messrs. William Boyer & Sons, Ltd., of Irongate Wharf, Paddington Basin, supplied 9,000 yards of sand and ballast to this job, and also their Hounslow pit sand for pointing.

Sadlers' Wells Theatre.

We are informed that Messrs. R. G. Ward & Co., Ltd., 5, Laurence Pountney-hill, E.C.4, supplied the 2-in. purple bricks used in the building of the Sadlers' Wells Theatre, Clerkenwell. The theatre was illustrated in our issue for January 9.

Change of Address.

We learn that the old address, 32, Charing Cross, of the "Twinlock" Cavity Brick Supply Co., is now known as 47, Whitehall, London, S.W.1, the street of Charing Cross being merged in Whitehall, of which it is the continuation.

The "Forum" Cinema, S.W.

In connection with this cinema, recently illustrated, we are informed that the installation contractors for the Western Electric reproduction plant were the Joint Electrical Services (Southall), Ltd., of 1, Hortus-parade, Southall, Middlesex.

Change of Name.

In future, the May Construction Co., Ltd., will be known as May Acoustics, Ltd. This change is a change in name only, as both Mr. Huntley and Mr. Sparks will still continue to direct the business as formerly. We learn that this firm's "Sabinite" acoustic plaster has recently been specified on the new Lever House, Blackfriars; new head office, Phœnix Assurance Co., Ltd., Lothbury, E.C.; and His Majesty's Theatre, Pretoria, South Africa.

Midland Bank Limited.

The Directors of the Midland Bank, Ltd., report that, full provision having been made for all bad and doubtful debts, the net profits for the year 1930 amount to £2,318,689, which, with £859,258 brought forward, makes £3,177,947, out of which appropriations amounting to £1,332,861 have been made. This leaves a sum of £1,845,086 from which the directors recommend the payment of a dividend for the half-year ended December 31, 1930, at the rate of 18 per cent. per annum less income tax, payable February 2, 1931. This absorbs £993,799, leaving to be carried forward a balance of £851,287.

Catalogue of Drawing Accessories.

A well-produced and bound catalogue of particular interest to the architectural, surveying and engineering professions makes an appearance from Messrs. A. West & Partners, 36, Broadway, S.W.1. In it are detailed and illustrated all types of surveying instruments of the newest design; drawing instruments and materials; and photographic apparatus and materials. A section is also given over to plan reproduction, particulars being given of the firm's "Bromostat" process by which, we are informed, plans can be reproduced to enlarged or reduced scales, in addition to which excellent copies can be made from pencil drawings or blue prints.

Diaries and Calendars.

We have received diaries and calendars from other of our friends as follows:—Callender's Cable and Construction Co., Ltd.; John Harrap & Son; C. F. Hodgson & Son, Ltd.; N. Gerver; F. A. Norris & Co., Ltd.; Edward Wood & Co., Ltd.; C. Townsend, Hook & Co., Ltd.; Lewis E. Nunn; H. & C. Davis & Co., Ltd.; West Lancashire Advertising Service; G. Harmsworth & Co.; Thomas Robinson & Son, Ltd.; Ragusa Asphalte Paving Co., Ltd.; Le Grand, Sutcliffe & Gell, Ltd.; J. W. Vickers & Co., Ltd.; Charles P. Kinnell & Co., Ltd.; R. K. Burt; J. Sagar & Co., Ltd.; and E. B. Holmes & Co., Ltd.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

*** Denotes *accepted*.**
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modifications*.
¶ Denotes *accepted by H.M. Offices of Works and H.M. War Office*.

Bangor.—14 houses in Euston-road, for the City Council:—

*W. Evans, Pentraeth, Anglesey (per house)	£354

Barnsley.—Painting all the woodwork and iron-work of the exterior of the Municipal Hospital in Gawber-road, for the C.B. Mr. Harold Taylor, Borough Surveyor. Quantities by the Borough Surveyor:—

Painting work—

*Exley & Slater, Town End, Barnsley	£145 0

Replacement of defective eaves—

*W. G. & L. England, Summer-lane, Barnsley	324 7

Beckenham.—Lavatory building and renovations to the existing lavatories in Kelsey-park, for the U.D.C. Mr. H. Storr Best, engineer and surveyor:—

	New conveniences.	*Alterations to existing.*
*Geo. Green (Beckenham), Ltd., 15-17, Wickham-road, Beckenham	£740	£150

Beeston.—28 parlour and non-parlour houses on the Wollaton-road, Dennis-avenue and Anderson-crescent site, near Beeston Cemetery, for the U.D.C. Mr. E. A. Bush, surveyor:—

H. Loach & Son, Carlton	£10,506
F. Perks & Son, Long Eaton	10,500
J. E. Jervis, Long Eaton	10,500
R. Hustwayte, Sherwood, Nott'm	9,980
R. J. Jewell & Son, Dunkirk, Nott'm	9,960
H. Orton & Son, Long Eaton	9,903
H. R. Hofton & Sons, Beeston	9,675
W. W. Smith, Chilwell	9,700
J. H. Brough & Co., Beeston	9,140
*G. T. Rice & Co., Beeston	8,930

Birkenhead.—Swimming baths, slipper baths, boiler house filtration plant houses, laundry, etc., at the junction of Byrne-avenue and Old Chester-road, Rock Ferry, for the T.C. Mr. R. W. Johnson, Borough Engineer and Architect:—

‡J. A. Milestone & Son, Ltd., Wallasey	£45,938

Buckie.—Installation of electrical mains, etc., for the T.C. Mr. J. E. Macewan, engineer, 62, Robertson-street, Glasgow, C.2:—

*Thos. Laurie & Co., Ltd., Falkirk.	

Canterbury.—Public convenience on the Star Brewery site, Broad-street, for the T.C. City Engineer and Surveyor:—

*G. Browning, St. George's-place, Canterbury.	

Castlebar.—Repairs to cottages, for the Mayo Co. Board of Health:—

*M. Gibbons	£110

Chiswick.—Bridge over the River Thames. Sir Herbert Baker, A.R.A., 12, Barton-street, S.W.:—

*Cleveland Bridge & Engineering Co., Ltd., Darlington.	

Coaltown of Balgonie.—Electric lighting of 21 houses at Coaltown of Balgonie, for the Fife C.C. Mr. J. M. Mitchell, County Clerk, County-buildings, Cupar, Fife:—

*Moncrieff, Bros., Leven, Fife	£110 12 9

Coalville.—Enlargement of the grammar school, for the Leicestershire E.C. Mr. Ernest G. Fowler, architect and surveyor, County Education office, Grey Friars, Leicester:—

Edwin Fox & Co., Leicester	£4,799
Arthur Faulks, Loughborough	4,625
Griffin Bros., Hugglescote	4,155
E. Orton & Dalby, Hugglescote	4,120
Walter Moss & Son, Coalville	4,075
*Orton & Co., Coalville	4,045

Cork.—168 houses at Turner's Cross, for the Corporation:—

John Kenny & Sons, Dublin	£82,884 5 10
Jones & Co., Bandon, Co. Cork	79,987 13 11
Housing Corporation of Great Britain, Ltd., Cork	77,954 3 3
	75,227 0 0
John Buckley, Cork	73,296 0 0
Murphy Bros., Cork	69,764 14 10
Coughlan Bros., Cork	
‡Meagher & Hayes, Drinan-street, Cork	69,726 10 3
Lee Bros., Enfield, Middlesex	67,200 0 0

Dewsbury.—Extensions to the Town Hall, for the Corporation. Mr. T. Blakeley, Borough Architect:—

Mason and bricklayer—*J. Donovan.
Slater—*Pickles Brothers.
Plumber—*F. Newsome, Ltd.
Plasterer—*A. & F. Hodgson.
Painter—*Ned Ramsden.
(All of Dewsbury.)

Dundalk.—Sanitary works at the district hospital, for the Louth Co. Board of Health:—

J. Collins, Drogheda	£996
P. Donnelly, Carrickmacross	982
*F. McDonald & Sons, Dundalk	972

Dunmow.—8 houses at Hatfield Heath, for the R.D.C.:—
*Thos. A. Goodly & Sons, High-street, Dunmow £2,670 17

Enniskillen.—Ten houses, three in Mary-street and seven in Strand-street, for the U.D.C. Borough Surveyor:—
H. Pierce & Sons, Enniskillen £5,400
*J. Harvey & Son, Enniskillen 3,640

Foynes.—Extensions to sewerage works, for the Limerick Co. Board of Health:—
Murray & Son, Youghal £750
*McCaffrey & O'Carroll, Limerick 738

Goole.—26 houses on the Morley-street site and six on the Colonel's-walk site at Goole, for the U.D.C.:—
*G. T. Farrow, Doncaster £25,264

Hampton Court.—Bridge over the River Thames. Sir Edwin Lutyens, R.A., architect, 17, Queen Anne's-gate, S.W.1:—
*Holloway Bros., Ltd., Bridge Wharf, Grosvenor-road, S.W.1.

Haywards Heath.—Alterations and additions to the existing private house, "Beechmont," for conversion into convalescent home, for the Brighton C.B. Messrs. Clayton & Black, architects, 10, Prince Albert-street, Brighton:—
*W. G. Tarrant, Ltd., Byfleet, Surrey.

Hereford.—Erection of sale rings in the Cattle Market, for the T.C. City Surveyor:—
*Alexander & Duncan, Leominster ... £2,100

Hereford.—For roads and sewers at Hunderton, for the T.C. City Surveyor:—
*W. H. Worthington, Ltd., Manchester £5,667

Hull.—Installation of electric light and power at Constable-street school, for the E.C. Mr. R. C. Moore, Director of Education:—
*Napier & Wheeldon, Hull.

Ireland.—The following contracts have been placed by the Commissioners of Public Works:—
Baile an Ghoilin N.S., Co. Kerry—erection of school—J. Galvin, Waterville, Killarney.
Ballyglass Garda Station, Co. Mayo—reconstruction—M. Walsh, Kilmaine, Claremorris.
Cairin National School, Co. Cork—erection of school—P. Dennehy, Pelgooly, Kinsale.
Creeslough Garda Station, Co. Donegal—adaptations and repairs—T. Reynolds, Drumrahill, Mohill.
Rhode Garda Station, Offaly—erection of station—John J. Guinan, Geashill.
Scoil Brighde, Co. Donegal—erection of school—Laffery & McSheffrey, Moville.
Shevry Garda Station, Co. Tipperary—erection of station—Mr. Purcell, Littleton, Thurles.

Kettering.—Alterations and extensions to the chronic block at the Poor Law Institution, for the Northamptonshire Public Assistance Committee:—
*O. P. Driver & Son, Ltd., Kettering ... £8,586

Killarney.—Six houses, for the U.D.C.:—
*P. Flynn £3,000

Lincoln.—Additions and certain alterations to complete County Offices, for the Lindsey C.C. Mr. H. G. Gamble, F.R.I.B.A., County Architect, Bank-street-chambers:—

Wm. Nicholson & Sons, Ltd., Leeds	£76,836
J. Guttridge & Sons, Ltd., Peterborough	70,800
W. & J. Simons, Ltd., Nottingham	69,250
H. Arnold & Co., Ltd., Doncaster	68,165
J. Young & Son, Ltd., Norwich	66,979
Wallhead Bros., Ruskington, Sleaford	65,999
J. W. Stamp & Co., Nottingham	65,812
W. J. Simms, Sons & Cooke, Ltd., Nottingham	65,700
Gilbert & Hall, Ltd., Nottingham	65,590
R. Hustwayte, Nottingham	65,000
Bosworth & Lowe, Nottingham	64,887
E. D. Winn & Co., Ltd., London	64,440
T. Jenkinson & Sons, Ltd., Doncaster	64,000
B. Pumfrey, Ltd., Gainsborough	62,540
Wm. Wright & Son, Ltd., Lincoln	62,375
J. Harvey, Mansfield	61,800
T. Roper & Sons, Ltd., Sheffield	60,000

London.—Additional office for the Borough Treasurer's Department, for the Deptford B.C.:—

H. L. Holloway & Son	£484
F. J. Oldman & Son	422
A. Keen	336
T. D. Leng	297
*Matthews & Spicer, 2a, Reginald-square, Deptford	289

(All of London.)

¶London.—The following works contracts have been placed by the War Office during the week ended January 8:—
Gravesend, Milton Barracks—bath house—H. Goodsell, Maidstone.
Chatham—sanitary annexes to married soldiers' quarters—Ventris & King, Southend-on-Sea.
Cardiff, Maendy Barracks—dining-room, cookhouse, etc.—T. F. Howell, Ltd., Caerphilly.
Chatham, Southill Barracks—erection of garage—Dawnay & Sons, Ltd., London.
Lydd—erection of gymnasium block—R. J. Barwick, Dover.
Deepcut Camp—cookhouse and dining-room block—T. H. Jones, Farnborough.

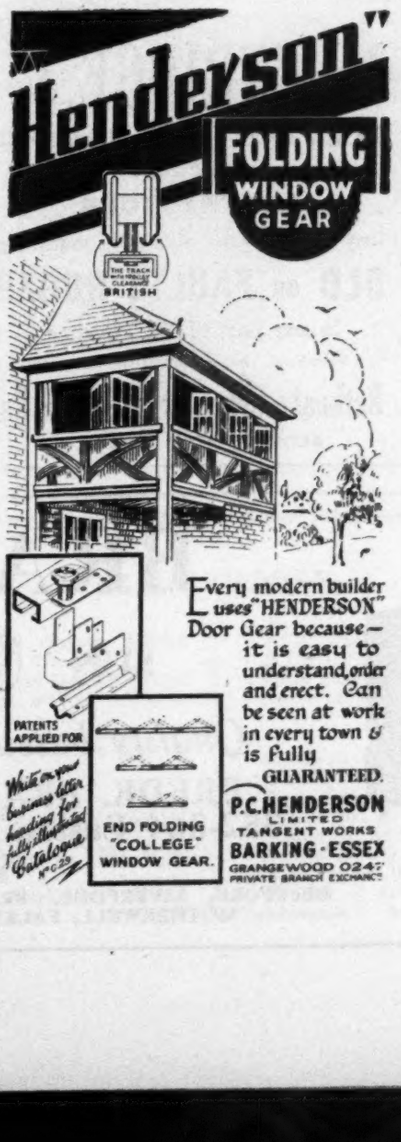
¶London.—Tenders accepted by H.M.O.W for the week ending January 10:—
Welwyn Telephone Exchange—adaptations—C. J. Bond, Walkern-road, Stevenage.
Belfast Parliament Buildings—steel casements, etc.—H. Hope & Sons, Ltd., Smethwick, Birmingham.
Chorley Employment Exchange—erection—J. Whittaker & Sons (Blackburn), Ltd., Bastwell, Blackburn.
Somerset House—passenger lift—Penrose Lifts, Ltd., 239-41, Southwark Bridge-road, S.E.1.
Park Telephone Exchange, Dundee—erection—J. B. Hay & Co., 61, South Tay-street, Dundee.
Levenshulme Post Office—erection—P. Hamer, Ltd., Park-street, Swinton, Manchester.
National Portrait Gallery—internal decorations—J. Mowlem & Co., Ltd., 41, Ebury Bridge-road, S.W.1.

Lumley.—Works in connection with the installation of heating apparatus in Lumley New Council school for the Durham E.C.:—
*Brightside Foundry & Engineering Co., Ltd., Newcastle £106

Manchester.—For (*a*) heating installations; (*b*) electric installations; (*c*) patent glazing; (*d*) electric installation in Ducie-avenue municipal school extension; (*e*) heating installation at Briscoe-lane municipal school, for the E.C.:—
(*a*) *G. N. Haden & Sons, Ltd.
(*b*) *R. Seddon.
(*c*) *A. J. Heron & Sons, Ltd.
(*d*) *R. Seddon & Sons.
(*e*) *G. N. Haden & Sons.
(All of Manchester.)

Manchester.—Church hall and Sunday school at the corner of Fog-lane and Parrswood-road, South Burnage, for the Congregational Union. Messrs. Joseph Swarbrick & Son, F.R.I.B.A., architects, 14, John Dalton-street:—
Builders—*W. Thorpe & Son, Ltd., Manchester.
Slaters—*Browne & Sons, Manchester.
Plasterer—*W. J. Roberts, Manchester.
Plumbing—*A. Longworth & Sons, Manchester.
Mason—*F. M. & H. Nuttall, Whitefield.

Manchester.—Tuberculosis offices and dispensary at the corner of Denmark-road and Oxford-road:—
*Moston Brick & Building Co., Ltd., Kenyon-lane, Moston.
Asphalter—*Limmer & Trinidad Lake Asphalt Co., Ltd.
Mason—*F. M. & H. Nuttall, Ltd.
Slater—*Wm. Royle & Co.
Plumber and glazier—*A. J. Heron, Ltd.
Plasterer—*J. & A. Hart.
Painter—*A. Hogg, Ltd.
Iron and steelwork—*Edward Wood & Co., Ltd.
(All of Manchester.)


Henderson"
FOLDING
WINDOW
GEAR
THE TRACK WITH DOUBLE CLEARANCE
BRITISH
PATENTS APPLIED FOR
Write on your business letter heading for fully illustrated Catalogue No. C.25
END FOLDING "COLLEGE" WINDOW GEAR.
Every modern builder uses "HENDERSON" Door Gear because—it is easy to understand, order and erect. Can be seen at work in every town & is fully GUARANTEED.
P.C. HENDERSON LIMITED
TANGENT WORKS
BARKING · ESSEX
GRANGEWOOD 0245
PRIVATE BRANCH EXCHANGE

Manchester.—Public washhouses at South-street, Longsight, for the T.C.:—
Builders—*A. Fenton.
Mason—*F. M. & H. Nuttall, Ltd.
Slater—*Cumming & Haddon, Ltd., Leicester.
Plumber and glazier—*Wm. Cowlishaw & Co.
Plasterer and painter—*A. & S. Wallace, Ltd.
Smith and ironfounder—*H. Peers & Co., Bolton.
(Remainder of Manchester.)

Manchester.—Public washhouses at Caythorne-street, Moss Side, for the T.C.:—
Builders—*Tinker & Young, Ltd.
Drainer and concretor—*Thos. Campion & Son.
Mason—*Mather & Ellis.
Slater—*Huntington's, Ltd.
Plumber and glazier—*A. Tinker.
Plasterer and painter—*J. Gibbons & Son, Ltd.
Smith and ironfounder—*Royce, Ltd.
(All of Manchester.)

Manchester.—Public washhouses at Bank-street, Clayton, for the T.C.:—
Builders—*Fearnley & Sons, Ltd.
Mason—*F. J. Halliwell.
Slater—*Huntington's, Ltd.
Plumber, etc.—*T. Ballantyne & Co., Ltd.
Plasterer and Painter—*J. Gibbons & Son, Ltd.
Smith and ironfounder—*E. Wood & Co., Ltd.
(All of Manchester.)

Manchester.—Public washhouses at Worksleigh-street, Newton Heath, for the T.C.:—
Builders—*Tinker & Young, Ltd.
Drainer and concretor—*The Mosley Construction Co., Ltd.
Mason—*Mather & Ellis.
Slater—*Huntington's, Ltd.
Plumber, etc.—*T. Ballantyne & Co., Ltd.
Plasterer—*J. Gibbons & Sons, Ltd.
Smith and ironfounder—*Jno. Webb & Son, Ltd., Bury.
(Remainder of Manchester.)

Manchester.—Swimming baths at New Moston, for the T.C.:—
Builders—*Moston Brick & Building Co., Ltd.
Mason—*Mather & Ellis.
Slater—*Warr & Co., Bolton.
Plumber, glazier—*T. Ballantyne & Co., Ltd.
Plasterer and painter—*S. & J. Howarth.
Smith and ironfounder—*Edward Wood & Co., Ltd.
(Remainder of Manchester.)

Manchester.—Infant's department for 300 scholars at Briscoe-lane elementary school, Newton Heath, for the E.C. Architect's Department, Education Offices, Deansgate:—
*S. & J. Smethurst, Ltd., Oldham £9,800

Newport Pagnell.—Four Council houses at Stoke Goldington, for the R.D.C.:—

T. H. Bird & Sons, Bradwell	£1,640
H. P. Cross, Northampton	1,590
George Ebbs, Loughton	1,550
H. W. Mason, Newport Pagnell	1,499
*Henry Mason, junr., Newport Pagnell	1,466

(Subject to approval of M.H.)

Pontefract.—Sanitary conversions at (1) Newtown, (2) Ladybalk, (3) Friarwood, for the T.C.:—

(1)—*J. Featherstone	£100 12 1
(2)—*J. Featherstone	285 10 3
(3)—*J. Featherstone	293 5 7

Ramsgate.—Removal of Upper-road retaining wall and construction of tar-paved promenade in front of Old Harbour Station, for the Corporation. Borough Engineer, 16, Albion-place:—

E. W. Martin	£2,655
S. H. Taylor	2,376
Gilbert Home	2,298
H. Newby, Ltd.	2,099
*E. G. Newby, 16, Lyndhurst-road	2,037

(All of Ramsgate.)

Richmond (Surrey).—New bridge over the River Thames. Mr. Maxwell Ayrton, F.R.I.B.A., 7, Grosvenor-street, S.W.1:—
*Aubrey Watson & Co.

Rothwell.—Twelve houses in Spencer-street, for the U.D.C.:—
*Burgess & Johnson, Rothwell.

South Shields.—New bottling factory in Tyne Dock, for the Victoria Bottling Co., Ltd. Messrs. T. A. Page & Son, Ltd., architects, South Shields:—
*Carruthers & Salt, Ltd., South Shields.

Stourbridge.—Internal redecoration of 20 houses fronting South-road and 16 houses in Lawn-avenue and Charles-road, for the T.C.:—
*Cornelius Green & Son, Stourbridge.

Stourbridge.—External painting of 77 houses on the Grange estate, for the T.C.:—
*T. J. Insall, Cradley Heath.

Surbiton.—Extension of existing sewage disposal works, for the U.D.C. Mr. Henry T. Mather, surveyor:—
*G. Bell & Sons, Ltd., Tottenham £24,554 15 2

Tanfield.—72 houses on the Leazes site, for the U.D.C. Mr. J. R. Heslop, architect:—
*H. Bowers, Rowlands Gill, Newcastle-on-Tyne £26,064

Thirsk.—Covered reinforced concrete service tank, impounding chamber, pipe line and other appurtenant works, for the R.D.C. Mr. W. L. l'Anson-Robson, engineer, Carlton Miscott, near Thirsk:—

*F. D. Todd & Sons, Thirsk.

Wales.—Construction of bridges and other works between Cardiff and Ely Stations, for the G.W.R. Mr. F. R. E. Davis, secretary, Paddington Station, London:—

*Ernest C. Jordan & Son, Harrow-road, Newport (Mon.).

Washington.—Welfare hall and institute, for the Glebe Colliery Welfare Committee. Mr. W. A. Kellett, architect, Lloyds Bank-chambers, Barnard Castle:—

*G. McCall, Herrington Burn (Co. Durham) £3,150

Waterford.—Sanitary work, for the Mental Hospital Committe:—

*C. S. Downey £287

Waterloo-with-Seaforth.—School clinic and maternity and child welfare centre, for the U.D.C. Mr. Wm. P. Horsburgh, F.R.I.B.A., F.S.I., architect and surveyor, D.16, Exchange-buildings, Liverpool:—

T. Williams	£12,492
T. G. Huxley & Co.	8,280
W. Thornton & Sons, Ltd.	8,024
J. Henshaw & Sons	7,986
R. Wearing & Sons	7,978
Parker Bros.	7,898
J. Hall & Co.	7,819
Hughes & Stirling	7,700
D. Ablett & Sons, Ltd.	7,539
J. Williams (Liverpool), Ltd.	7,520
G. R. Wright	7,497
S. Powell & Sons (L'pool), Ltd.	7,485
W. A. Barnes	7,480
W. Tomkinson & Sons	7,425
Rimmer Bros.	7,398
R. Costain & Sons, Ltd.	7,395
W. A. Gale	7,283
Tyson's (Contractors), Ltd.	7,078
*J. Tomkinson & Co., Ltd.	6,990

Wigan.—Erection of All Saints' Senior Church School, Frog-lane, for the Managers. Mr. Leonard Barnish, F.R.I.B.A., architect. Messrs. Grayson & Barnish, architects:—

*Massey Bros., Pemberton, Wigan ... £16,070

New Cottages at Merstham.

Over 500 houses, cottages and flats have been built by the Southern Railway within the last eight years for the accommodation of their employees on various parts of the system, and a group of 20 cottages at Merstham, which has just been completed, is the latest addition to the Southern Railway's contribution towards the general housing shortage. Situated on a hill, a picturesque grouping of the cottages has been possible. New schemes under consideration include those at St. Leonards, Higham, North Tawton, Blackmoor, Gunnersbury and Bexhill.

TURPIN'S FLOORS

Over 60 years' reputation for good work.

Ensure lasting satisfaction by entrusting your PARQUET, BLOCK, and HARDWOOD FLOORS to:—

Ask for Booklet "B."

TURPIN'S PARQUET FLOORING CO. 25 Notting Hill Gate, London, W.1. 'Phone: PARK 1865 and 7585.

HOSPITAL & SCHOOL STOVES

SOLE MAKERS OF WRIGHT'S IMPROVED AND ALSO SHORLAND'S PATENT WARM AIR VENTILATING PATTERNS.

GEO. WRIGHT (LONDON) LTD 19 NEWMAN ST OXFORD ST LONDON W.1. WORKS:-BURTON WEIR BOTHERHAM

J. GLIKSTEN & SON

LIMITED

ESTABLISHED 1885

Specialists in

SEASONED HARDWOODS

of all descriptions for BANK, OFFICE, SHOP-FITTERS, and BUILDING TRADES.

Timber always fit for immediate use.

PLYWOOD in all sizes and qualities.

Forty acres Storage Wharf and Registered Office:—

CARPENTERS RD., STRATFORD, LONDON, E.15.

Telephone: Amherst 4444 (6 lines)

Telegrams: Gliksten, 'Phone, London.

J. J. ETRIDGE, Jr. Ltd.

SLATING AND TILING

SLATE MERCHANTS

CONTRACTORS

Inspections and Reports made on

OLD OR FAULTY ROOFS

in any part of the country.

Telephone: Bishopsgate 1944/5 or write

Bethnal Green Slate Works,

BETHNAL GREEN, LONDON, E.

OAK FLOORING

1000 SQUARES 1" x 4" MILD GRAINED AUSTRIAN

SYDNEY PRIDAY & SNEWIN LTD.

Oak Specialists & Hardwood Merchants

OAK WHARF, RAVENSDALE RD., N.16

Phone: CLISSOLD 6253 (3 lines)

FITZPATRICK & SON

MASONS & PAVIORS

PAVING WORK OF EVERY DESCRIPTION

Largest stock of Second-Hand and Redressed (equal to new) Granite Setts in London, at Rock-bottom Prices.

Rectangular and Crazy York Paving, Rockery Stone, Granite Chippings and Tarmacadam.

Spur Stones to order.

Quadrant Blocks in stock.

454 OLD FORD ROAD, LONDON, E.3

'Phone—EAST 6336 7/8

FINE FLOORINGS

PARQUET

WOOD BLOCK

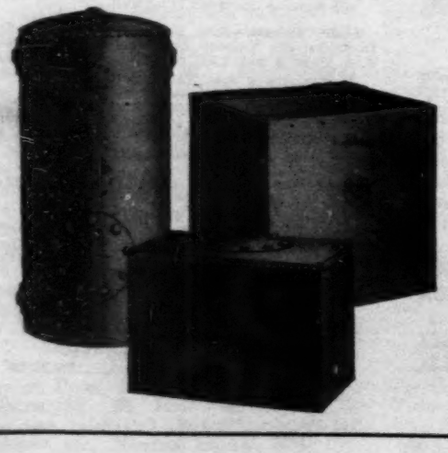
SOLID T & G HARDWOOD

PANELLING

Stevens & Adams Ltd.

POINT PLEASANT WANDSWORTH-S.W.18

Phone PUTNEY 4701-2-3-4



BRABY'S

SUN BRAND

Quality based on experience.

FREDK. BRABY & CO. LTD.

352-364 Euston Rd. London, N.W.1

Also at

DEPTFORD, LIVERPOOL, BRISTOL, PLYMOUTH, GLASGOW, MOTHERWELL, FALKIRK, BELFAST & DUBLIN.